The Stock Market, Credit, and Capital Formation

by Fritz Machlup

THE STOCK MARKET, CREDIT AND CAPITAL FORMATION

Copyrighted material

THE STOCK MARKET, CREDIT AND CAPITAL FORMATION

BY

FRITZ MACHLUP
PROFESSOR OF ECONOMICS AT THE UNIVERSITY OF BUFFALO

TRANSLATED FROM A REVISED VERSION OF THE GERMAN EDITION BY
VERA C. SMITH, B.SC. (ECON.), PH.D.

The Ludwig von Mises Institute
Auburn, Alabama
2007

LONDON EDINBURGH GLASGOW
WILLIAM HODGE AND COMPANY, LIMITED
1940

PRINTED BY
WILLIAM HODGE AND COMPANY LIMITED
GLASGOW EDINBURGH LONDON

PREFACE

THE German edition of this book was written in 1929 and 1930, and published early in 1931 under the title *Borsenkredit, Industriekredit und Kapitalbildung.* The book was No. 2 in the series *Beiträge zur Konjunkturforschung* of the Austrian Institute for Trade Cycle Research.

The English translation was done from the German edition after I had made considerable revisions of, and additions to, the original text. The eight years that have passed since the first edition have seen a rapid development of economic thought. Naturally, my own ideas have not stood still. There are a few things of which I have become more certain than I was eight years ago, but there are many things of which I was cocksure then—and am very uncertain now. My views have changed not only concerning the truth-value or probability-value, but also concerning the practical significance of many a statement.

Under these circumstances the decision as to how to adapt the present English edition of my book was not easy. Three ways were open to me: (1) to leave the original text unchanged; (2) to revise the text and add whatever seemed necessary; or (3) to rewrite the whole book.

The first of these possibilities is, I feel, appropriate only for a book which in the form in which it was first published has given rise to so much discussion in print that a revised edition would render unintelligible what the critics and commentators have had to remark. This is true for all "classics," and also for some recent books, such as D. H. Robertson's *Banking Policy and the Price Level*, J. M. Keynes'

Treatise on Money and *General Theory*, F A. Hayek's *Prices and Production*. These books should not be permitted to be substantially revised in new editions, because the discussion of their theses and elaborations of them in books and articles by their critics is sometimes of no smaller importance than the original works. A relationship of complementarity has developed between the original statements and the critical comments.

Such considerations were not pertinent to my first edition. My choice, then, was only between a completely rewritten and a largely revised edition. Revision was more troublesome. Yet, in consideration of whatever discussion my first edition has brought forth, I decided in favour of a revised edition which would still contain all those propositions which have found the friendly or unfriendly attention of my critics. To give an example: I should have been inclined to omit most of my remarks on "transfer payments" (Zessionszahlungen), had it not been for the interesting comments which Mr. Koopmans devoted to them.[1] Thus, I felt obliged to elaborate and qualify statements, the simple omission of which would have saved me much time. I felt obliged, moreover, to adhere by and large to the original organization of the book, although certain rearrangements would have commended themselves. I left the original structure as it was, except for the splitting up of one chapter into three, and the insertion of three new chapters (VII, VIII, and IX). This accounts for the 17 chapters of the present book as compared with the 12 of the first edition. In order to facilitate a comparison, a table is given below indicating the major changes of, and additions to, the text of the first edition.

---

[1] J. G. Koopmans, "Zum Problem des neutralen Geldes," *Beiträge zur Geldtheorie*, ed. F. A. Hayek.

A word of apology may be needed in order to appease terminological fanatics who refuse to understand terms in any meaning other than that which they have been assigned in the newest Keynesian language. The present book adheres to pre-Keynesian language, employing terms such as Saving and Hoarding in the traditional sense (corresponding most nearly to D. H. Robertson's definitions). In order to avoid misunderstandings I inserted in some places the adjective "intended" or "voluntary" before the word Saving. It is to be hoped that the terminological prejudices which have developed in recent years will soon give way to the desire to understand what the others say no matter in what language they say it.

Some explanation of the relatively high degree of abstraction in several chapters of this book may be in order. Studies of the stock market are usually of the nature of more factual descriptions, and refrain from theoretical speculation about underlying relationships between stock-exchange speculation and the capital structure (production structure) of the economy. It is, however, my firm belief that little can be said about the economics of the stock exchange without going below the surface and searching into the invisible connexions between visible phenomena. I am fully aware of the suspicions which the practical man often entertains regarding abstract arguments. I can only warn the practical stock-market expert who plans to read this volume of the fact that on many points he will have to follow me through intensive speculation. He may perhaps confine his reading to Chapters III-IX and XVI-XVII, thus omitting the chapters where the discussion seems to be far off his special field of interest.

PREFACE

Following the tradition of preface-writing, I wish to take the opportunity to acknowledge my indebtedness to all those who have aided me in shaping my ideas on the problems discussed in this book My greatest debt is due to a group of loyal friends and distinguished economists who became known to the world outside of Vienna as the Neo-Austrians, but who considered themselves during the years of their close collaboration as members of the "Mises-Kreis" I mention particularly Professor Ludwig von Mises, now at the Institut Universitaire des Hautes Etudes Internationales in Geneva, Professor Friedrich A von Hayek, now at the University of London, and Professor Gottfried von Haberler, now at Harvard University

More acknowledgments are due for the form and content of the present English edition First of all I wish to thank Dr Vera Smith for the stylistic skill which she has lent to the translation Furthermore, I have to thank several of my colleagues of the University of Buffalo, who advised me in matters of presentation and exposition, Professor Albert L Meyers, at present of the Agricultural Adjustment Administration in Washington, who has read the whole manuscript, Mr Bradford B Smith, Economist of the New York Stock Exchange, Professor Wilford Eiteman, Duke University, who furnished valuable information, and Mr Joseph G Crost, who compiled the statistical tables for Appendix C

FRITZ MACHLUP

P S—A delay in the publication of the book enabled me to bring most of the statistical series in the tables to Appendices C and D up to the middle of 1939 F M

BUFFALO, N Y, *December*, 1939

COMPARISON BETWEEN THE PRESENT AND THE FIRST EDITION

Chapter and section in the present book	Revisions or additions as against first edition	Chapter and section in the first edition
Ch I 1-4	negligible	Ch I 1-4
Ch II 4-5	negligible	Ch II 4-5
6, 7, 8	minor	6
9	negligible	7
Ch III 10-21	negligible	Ch III 8-19
22	minor	20
Ch IV 23-31	minor	Ch IV 21-29
Ch V 32-33	negligible	Ch IV 30-31
34	completely new	—
35	negligible	33
Ch VI 36-41	negligible	Ch V 36-41
42-47	substantial	42-45
48	negligible	46
Ch VII 49-58	completely new	—
Ch VIII 59-64	completely new	—
Ch IX 65-68	completely new	—
Ch X 69-71	substantial	Ch IV 34-35
Ch XI 72-74	negligible	Ch VI 47-49
Ch XII 75-76	substantial	Ch VII 50-51
77-78	negligible	52-53
79-81	substantial	54-56
82	completely new	—
83	minor	57
Ch XIII 84-89	negligible	Ch VIII 58-63
90-91	minor	64-65
Ch XIV 92-96	negligible	Ch IX 66-70
Ch XV 97	negligible	Ch X 71
98	substantial	72
99-100	negligible	73-74
Ch XVI 101-102	substantial	Ch XI 75-76
103-104	negligible	77-78
105-106	minor	79-80
107	negligible	81-82
108	completely new	—
109	substantial	83
Ch XVII 110	negligible	Ch XII 84
111-114	substantial	85-87
115	completely new	—

Note—Revisions or additions are called *negligible* if they are confined merely to slightly changed formulations of otherwise unchanged ideas, *minor* if several paragraphs are reformulated, or qualifications added, *substantial* if elaborations or qualifications imply changes in ideas or in emphasis, *completely new* if the whole section was not contained in the first edition.

From the Preface to the German Edition

Current affairs have prompted this study of the relationships between the stock market, credit, and capital formation. The growth of stock-exchange credits during the prosperity period evoked the interest, and in some part the serious concern, of those in charge of economic and monetary policy. Lending to the stock exchange was officially assailed during recent years in Germany (1927) and in the United States (1928-1929). Intervention against stock-exchange lending was undertaken supposedly in defence of industrial interests. This resulted in lively discussion of the problems involved, in the daily papers as well as in economic periodicals.

In a paper read before the *Nationalökonomische Gesellschaft* in Vienna, on 25th April, 1930, I discussed the problem of stock-exchange credit. My paper contained the essential theses of this book. A discussion followed which gave rise to significant comments by several eminently competent economists. Many of the remarks of the participants in the discussion have been embodied in this book.

Fritz Machlup.

Vienna *May*, 1931

CONTENTS

PAGE
CHAPTER I Competition in the Credit Market 1
CHAPTER II Concepts Used and Problems Discussed 6
CHAPTER III The Role of Capital in Security Transactions 21
CHAPTER IV The Absorption of Capital in Stock Exchange Speculation 41
CHAPTER V The Loss of Capital in Stock Exchange Speculation 57
CHAPTER VI Demand for Money by the Stock Market 67
CHAPTER VII The Demand for Loans by the Stock Market 97
CHAPTER VIII The Liquid Funds of Bearish Sellers 129
CHAPTER IX Capital Gains, Savings and a Vicious Circle 146
CHAPTER X A Digression on International Speculation 154
CHAPTER XI The Supply of Capital and Industrial Fluctuations 164
CHAPTER XII Credit Creation and the Attempt to Determine its Proper Limits 174
CHAPTER XIII Working Capital and Short-Term Loans 202
CHAPTER XIV The Money Market and the Trade Cycle 231

		PAGE
CHAPTER XV	Industrial Investment and the Quality of Credit	249
CHAPTER XVI	The Stock Market, Easier Credit Dearer Credit	262
CHAPTER XVII	Conclusions	288
APPENDIX A	The Movements in Ledger Balances of Banks and Brokers Arising out of Stock Exchange Operations	303
APPENDIX B	The Circulation of Brokerage Deposits	307
APPENDIX C	Statistical Narrative for the United States	311
APPENDIX D	A Few Statistical Figures for England	329
TABLES		331
INDEX		400

CHAPTER I

COMPETITION IN THE CREDIT MARKET

1. The various types of borrowers, who compete for the limited supply of credit, evoke very different sentiments among critical observers of the economic system. The class of borrowers which is least sympathetically regarded by the critics is that which uses the purchasing power, put at its disposal, on the stock exchange. This is not surprising considering the attitude adopted by a large section of the community towards stock exchanges, towards the business that is transacted thereon, and towards the people who frequent them. In so far as this is the mere expression of the resentment of the general public toward the "easy" and "effortless" gains of traders on the stock exchange, or the contempt of the moralists for "unscrupulous" speculation[1] or even the lack of respect of naive economic politicians for every kind of activity which is unproductive in a technical-physical sense, there is no scientific problem involved. But there are serious scientific problems involved in the arguments of many economists who have come to take sides with or against particular classes of borrowers.

Antipathies exist against stock exchange credit.

2. It is a fundamental proposition of the theory of value and prices, and one which is to be found without exception in every introductory text to economics, that under conditions of perfect competition the avail-

---

[1] Concerning the attempts to judge economic affairs from a moral standpoint Max Weber said "A highly developed stock exchange cannot be a club for the cult of ethics." Max Weber, *Gesammelte Aufsätze zur Soziologie und Sozialpolitik*, Tubingen 1924 p 321

The weaker bidder is squeezed out of the market.

able supply of any commodity will go to those buyers who offer the highest price for it. Whether we take the popular example of the horse market, or the orange market, or any other textbook example, there are always "excluded buyers" who are squeezed out of the market because other buyers outbid them. The pricing mechanism works in such a way as to distribute the limited supply among those who offer most, and to restrict the quantity demanded to the quantity supplied.

Writers often regard effective demand as a measure of wants—

This explanation of the exchange mechanism constantly called for treatment of the problem of the comparability of the intensity of wants of different persons; otherwise it was open to question whether the result might not be to satisfy "less important" wants while leaving "more important" wants unsatisfied. It was only when the impossibility of measuring the needs of different individuals came to be recognized that most economists decided to be content with a general prefatory reservation and to assume, for all practical purposes, that the amounts of money offered were the measure of the importance of wants.

It is a common experience to find that objections which have been disposed of in the early stages of an analysis, obstinately re-emerge at later stages. The same objection which was dealt with and turned away in building the foundation of a structure is liable to reappear, often in another guise, a story higher, where it requires to be dealt with anew. Thus the objection that economic importance or urgency should be measured in terms of indices other than the monetary expression on the free market, makes its reappearance in connexion with the controversy on productivity, where it takes the form of the question whether the distribution of productive factors in the exchange economy does actually tend toward securing the maximum product A systematic adherence to the basic assumptions of pure theory led to the conclusion that the "productivity objective" was realized by pursuing the "profit motive." It appeared to those who had previously disposed of the difficulty of ranging economic ends in order of importance, that it was impossible to construct a productivity concept which was divorced from the concept of profit and which was at the same time unobjectionable from a methodological standpoint, and that pure economic theory must be satisfied with the profit standard.

—and profits as a measure of productivity

But even those economists who accept this thesis have new pangs of conscience when they come to treat specialized problems, and again find themselves doubting the rationality of the results established by the working of the free market. And so they begin to re-examine exchange transactions from the standpoint of whether it would not be "better for society" if a different set of people were successful in obtaining what the market had to offer.

This is essentially what lies at the heart of the problem of the distribution of the available supply of credit among the various borrowers. When at certain times a large part of the credit supply is "taken up" by the stock exchange, because it is the strongest bidder on the credit market, critical observers remark that "it is a shame that the stock exchange should have secured credits of which industry could have made much better use."

The stock exchange may be the strongest bidder for credit.

The adherent of *laissez-faire* economics may decline from the beginning even to examine the question whether "industry" "is entitled to" credits in preference to the "stock exchange." He may avoid considering the motives, conclusions and false deductions of the critic, by having recourse to the argument that

No problem is left for a *laissez faire* stalwart it is absurd both theoretically and practically to combat the results of free competition for credit The adoption of this attitude precludes all discussion before it has begun The reasoning behind would run somewhat as follows. "If the credits were taken up by the stock exchange, the stock exchange was obviously able to outbid the other potential borrowers by paying a higher rate of interest, and it was undoubtedly enabled to do this by reason of its more profitable opportunities for employing the borrowed purchasing power The employment of credit on the stock exchange being more profitable than elsewhere, it follows that the credit is being put to its most productive use, and any further argument is beside the point "

There are several reasons why the present author's intention is not to dispose of the problem in this simple manner, but to examine it in detail First, it has to be recognized that the thesis that the productivity concept can be interpreted in terms of the profit principle is no longer universally accepted by pure theorists and still less by politicians Secondly, the logic of the conclusions should be tested no matter whether or not the premises appear acceptable. Finally, the main problem is linked up with a whole series of subsidiary problems whose detailed treatment is both important and interesting

Examination of the problem is necessary.

3. There is added reason for studying the problem of the distribution of the available supply of credit even for one whose faith in the working of free competition is unshaken One of the most important data in the whole problem, the supply of credit itself, is in fact partly determined by political factors, and thus is not the result of the play of free forces The modern organization of money and credit is such that it enables the banks to "create" credit (i e., to grant

credit in excess of the proceeds of intended savings) and thus makes the credit supply partly dependent on considerations of a politico-economic nature. But if the supply of credit is manipulated *quantitatively*, why should not its *distribution* among various classes of borrowers be manipulated also?

The problem is one of qualitative *v* quantitative control of credit

We have, then, to examine the economic arguments against a particular distribution of credit, and especially against the granting of credit to the stock exchange. The problem of the granting of credit to the stock exchange is but one aspect of the important group of questions which are usually dealt with under the heading "quantitative *versus* qualitative" control of credit. The examination of these problems will of course necessitate reference, at many junctures, to the elements of credit theory. It is, moreover, of the nature of credit theory that it links up with the theory of capital formation on the one side, and the theory of money on the other. In dealing with these topics we shall be dealing with crucial problems of trade-cycle theory.

CHAPTER II

CONCEPTS USED AND PROBLEMS DISCUSSED

It is said that the stock exchange absorbs capital.

4. Our main task in discussing the question of stock exchange credit is to examine the assertion that "*the stock exchange absorbs capital.*" This contention is the chief indictment in the case against stock exchange credit. This is evident from the fact that Cassel, the leading defender of stock exchange credit, used the same words in the title of two of his articles on the subject. One of these is entitled "Does the Security Market absorb Capital?"[1] and the other "Does the Stock Exchange absorb Capital?"[2]

This contention contains ambiguous terms.

Undoubtedly the discussion has suffered a good deal from the lack of uniformity in the use of terms. Not only did the various writers attach different meanings to certain technical terms, but also one and the same author often used the same term in vastly different senses in one and the same publication. The most obvious and most serious of these confusions is connected with the concept of capital. But even the term "stock exchange" does not always signify the same thing, and exactly what is meant by "absorption of capital" has seldom been unambiguously defined.

With reference to this last expression it is worth noting that it may be possible to have the use of something without depriving someone else of it. Stock exchange speculation has often been held to be just such a case, to the effect that while it needs capital it does not withdraw it from other uses. However, it is apparent that the charge of "using" credit must, if it is to be an "indictment," refer to a real "absorption," that is to say, the *withholding of capital from other uses* Now the alleged absorption may be either permanent or temporary

---

[1] The *Frankfurter Zeitung*, 8th May, 1927.

[2] Quarterly Report of the *Skandinaviska Kreditaktiebolaget*, April, 1929.

What absorption means

Disregarding the general public and certain journalistic writings, the view that *permanent* capital absorption took place was most emphatically advanced by Eberstadt[3] and more recently by Moulton.[4] Eberstadt, for instance, speaks explicitly of "capital formation for speculative purposes"[5] and of accumulated capital being "sucked up" by speculation. And Moulton, likewise, believes that "money savings" or "available investment money" were "absorbed" and "dissipated"[6] by the stock market boom As against these assertions most of the proponents of the anti-stock-exchange view claimed only that there is a *temporary* tying up of capital by the security markets We shall have to discuss in detail later how far this temporary absorption is possible and how far it is probable Cassel, for example, is not ready to admit even of this temporary tying up of capital

Some think of permanent absorption—

—others of a temporary tie up.

5 In regard to the definition of the term "stock exchange" which is relevant here, it may be helpful to point out that we are interested for the purposes of this study in the "stock exchange as a borrower." This might be interpreted as including all persons who use borrowed funds to acquire securities or it might mean only that narrower group of people who hold shares temporarily (usually for purposes of profiting from changes in their prices) As to that narrower group, it is not unimportant to make a distinction

Who are "the stock exchange"?—

---

[3] R. Eberstadt, *Der deutsche Kapitalmarkt*, Leipzig 1901

[4] Harold G Moulton, *The Formation of Capital*, Washington, D C, The Brookings Institution, 1935

[5] *Op cit*, p 25

[6] *Op cit*, p 151

—stock exchange members only —

between speculation by professional operators and speculation by the public. Whether or not the majority of writers on speculation have had in mind only trading by professional speculators, our investigations will have to include amateur speculators, and in fact all people who have anything to do with security markets.[7]

—or all buyers and sellers of securities?

There is great confusion over the meaning of capital

6. The use of the capital concept, or, more accurately, of the capital concepts,[8] has been the source of infinite confusion, a "second confusion of tongues, a second Babel."[9] "Our science cannot possibly concede the right to its students for all time to call ten or twelve fundamentally different things by the same name." Thus wrote Bohm-Bawerk[1] in 1888. How much uniformity of terminology is there now in the twentieth century? The "capital" which is "drained away" or "dissipated" is evidently something quite different from the "capital" which is "replaced" by new and more productive capital. The "capital" which "flows over" from the money market onto the capital market is again not the same thing as the "capital" which is "built up" out of borrowed credit. It would be possible to give several pages of examples of this kind. The words of Carl Menger written half a century ago are just as true to-day. "There are," he said,[2] "as many different and equally confused

---

[7] See in this connexion the instructive section on the personnel of the security markets in W. Prion, *Die Preisbildung an der Wertpapierbörse*, second edition, Munchen, Leipzig 1929.

[8] The remarks of this section follow along much the same lines as my article "Begriffliches und Terminologisches zur Kapitalstheorie" in the *Zeitschrift für Nationalökonomie*, Vol. II, No. 4, Vienna 1931.

[9] Eugen von Bohm-Bawerk, *Kapital und Kapitalzins, Positive Theorie des Kapitals*, fourth edition, Jena 1921, p. 16 (first edition, Vienna 1888) (p. 23 of the English edition).

[1] *Ibid.*, p. 29 (p. 36 of the English edition).

[2] Carl Menger, "Zur Theorie des Kapitales," in the *Jahrbücher für Nationalökonomie und Statistik*, New Series, Vol. 17, p. 1.

ideas as to what is the nature of capital as there are authors." It is almost unbelievable that, many decades after the publication of Böhm-Bawerk's *Positive Theory*, we should have to recall these words not as a historical reminiscence but as relevant to the present day.[3]

One word is used for three concepts

The inadequacy of terms has made it customary to designate the produced means of production, *and* the funds made available for the construction of such goods, *and* the funds already invested in such goods, all by the same word "capital." The misunderstandings to which this was bound to give rise, and which have indeed had extremely unfortunate results, can only be avoided if we determine to make the multiplicity of concepts clear by giving them different names. Whether we continue to designate one of the concepts by the term "capital" pure and simple, and look for new terms for the others, or whether we merely decide to use the word capital always with a qualifying adjective, is essentially a matter of indifference so long as the majority of economists accept the new nomenclature.

Capital goods and money capital

It is now customary to call the produced means of production "capital goods" or "*real capital*." The funds available for the construction or acquisition of real capital are very conveniently described by the term *"money capital."* Another concept which is somewhat broader than "money capital" is occasionally found useful, especially for a theory of a moneyless exchange economy, for some years past Cassel's term *"capital disposal"* has been used in the sense of power of disposal over goods which are used for the construction or acquisition of real capital This concept of capital disposal was adopted in a great deal of the German literature[4]

---

[3] It must be admitted that the reason is largely to be found in a peculiarity of Böhm-Bawerk's own theory. This peculiarity is that while giving a very fruitful definition to one concept of capital—the concept of capital goods, which covers the produced means of production—he omitted to give a name to a second concept which is both a part of common speech and of great importance analytically, viz., the funds which are made available for the construction of capital goods. Böhm-Bawerk himself was fully conscious of the omission and he explained the "incongruency" between his capital concept and his interest theory as due to "considerations of terminological discipline." (The capital goods concept was the concept of capital which was most widely accepted in Böhm's time.) He states that it would have been more to his liking "to have chosen some other concept of capital as the primary concept: one which would have been more in harmony with fundamental ideas of capital theory" (*op. cit.*, p. 91).

Böhm-Bawerk rejected the conceptual isolation of a "power of disposal" over an object from the object itself and reverted to the use of the word "capital" for describing "capital goods" Capital goods are sometimes called "future goods" because they are the produced means of production which do not yield consumable services until some future time The need to distinguish between the power to acquire goods for use in the capitalistic process (capital disposal or money capital) and the capital goods themselves (real capital) becomes apparent as soon as we introduce the assumptions of an exchange economy For readers faced with the phrase "the supply of capital" cannot always be sure whether it refers to the supply of capital goods or to the supply of money capital This is particularly awkward in discussions of the situation on the capital market, the function of which is to facilitate the exchange of money capital against titles

Capital disposal is distinguished from real capital.

---

[4] The concept of capital disposal is closely allied to Carl Menger's capital concept It is however, not very euphonious and sometimes, in certain juxtapositions gives rise to tautological expressions (as when we refer to an entrepreneur's "disposing over capital disposal") Nevertheless, a large number of writers, especially the followers of Adolf Weber, have adopted this terminology A detailed study of the problems connected with capital disposal has been made by Georg Halm in his article, "Das Zinsproblem am Geld- und Kapitalmarkt," *Jahrbücher für Nationalökonomie und Statistik*, Third Series Vol. 70, Jena 1926, and also in his more recent article, "Warten und Kapitaldisposition," *Jahrbücher für Nationalökonomie und Statistik* Third Series, Vol 76 Jena 1932

to real capital. The more common practice at the present time is to consider the supply of "capital" not as the supply of "future goods" but as the supply of "present purchasing power" which is offered in exchange for them. Many people, however, insist on taking the opposite course, and considerable confusion has been the consequence. The German writer Schulze-Gaevernitz, for example, in his widely read monograph on the German credit market,[5] says: "The market for fixed capital, such as factory buildings and machines, that is to say, the supply of fixed capital in exchange for long-term creditor rights, is what is called the capital market." This makes it appear as though both parties in the capital market offer "future goods" in exchange—the one machines and the other securities—and the present goods (money or abstract purchasing power) fall right out of the picture. In actual fact the "long-term creditor rights" concerned, are identical with the titles to real capital or its return, and these titles are offered in exchange for money capital. Thus what takes place on the capital market is an exchange of rights in or over capital in the Böhm-Bawerkian sense (i.e., capital goods) against capital in the Menger-Cassel sense (i.e., money capital or capital disposal). It is of course immaterial which of the two parties is regarded as constituting the demand side and which the supply side: the one offers money capital in exchange for rights over real capital, and the other offers rights over real capital in exchange for money capital.

On the capital market present purchasing power is exchanged for titles to future goods

The didactical value of the concept of capital disposal is apparent in the theory of saving and capital formation. For a long time there was much diversity of opinion as to what was the real nature of saving

Saving and capital formation

---

[5] G. von Schulze-Gaevernitz, "Die deutsche Kreditbank," in *Grundriss der Sozialökonomik*, V Abt. II Teil, Tübingen 1915, p. 77.

It was denied that saving was the necessary condition of capital formation, because real capital was not saved but produced. It was denied that consumption goods were saved, since accumulated stocks of consumption goods were not capital. Finally, it came to be recognized that it is the services of the factors of production that are saved, but this conception is one that is rather far removed from the concretely observable phenomena of economic life. An offer of capital is not in itself an offer of productive factors. If we make use of the term "capital disposal" however, we can express the idea as follows: the saver provides the entrepreneur with capital disposal thereby giving him command over the services of productive resources of which the saver has forgone the present (or near future) enjoyment.

Bohm-Bawerk may have been searching for a similar term, as, for example, when he says that the community invests "what is saved," and that, when "it" is transferred in the form of producers' credit, it increases the purchasing power available to producers for productive purposes and finally leads to a changed "disposition" over the factors of production.[6] Why, it may be asked, should not this "something," which leads to a change in the disposal of the factors of production, simply be called "savings" or "saved funds," thus avoiding the need for the clumsy expression "capital disposal" or even for the term "money capital"?

The proceeds of saving are money capital

Money capital is provided also by replacement allowances —

7. The concepts of capital disposal and money capital include more than savings. They include in addition the current replacement funds (*amortization capital*) of the economic system which are available for reinvestment. Savings previously invested in durable

---

[6] *Op. cit.*, p. 149 (pp. 115 and 116 of English edition).

capital goods become free again by way of depreciation allowances, and these, as a part of the gross receipts, constitute money capital or "free capital disposal." They do not, however, represent any increase in the total capital resources of the community. The current inflow to replacement funds represents free capital disposal available for the construction or reconstruction of real capital exactly as do the proceeds of current new savings.

As far as producers' goods industries are concerned, the sales-proceeds of the sellers of these producers' goods are identical with the investment in them by the purchasers of these goods. The amortization allowances, which are a part of the sales-proceeds and which now become available to the seller for reinvestment, are thus part of the investment of the buyer. What this means, however, is simply that the release of money capital at one stage of production is counterbalanced by a tying up of money capital in the next stage. From the point of view of the economic system as a whole the money capital of the replacement fund is ultimately collected from the consumers by the sale of the final product to them. The price of the final consumable product, provided that the expectations of all the producers concerned are realized, contains the various contributions to the replacement funds of all the earlier stages of production. Thus, it is the consumer, who, in paying the price of the consumption goods, is making the replacement capital available to the producers, should the latter care to reinvest. Nonetheless, in a money economy where the various stages of production are not integrated but constitute independent financial units, where each sells to another, the replacement funds realized at each stage have to be regarded as liquid money capital.

The case is similar for so-called *working capital* or

—and by turnover of working capital,—

circulating capital From the point of view of the economy as a whole the liquidated working capital cannot all be regarded as free capital disposal, the working capital of the producers in the intermediate stages is only "turned over," and is made free to the individual firm to the extent that the producers in the next succeeding stage of production tie up their working capital. It is only when the whole production process has been profitably completed, and the finished product has been sold to the consumer that the capital disposal embodied in circulating capital becomes free and available for reinvestment. It is possible, though not customary, to call this a case of amortization: amortization takes place at the successful conclusion of the technical process of production to the extent of 100% for capital goods which are used up in the single process, and of smaller percentages for durable capital goods. In neither case is it possible to talk of an automatic "reproduction of capital." It is truer to say that it depends entirely on the entrepreneurs as capitalists whether the funds which are made free by the successful conduct of their business, shall be "put back" and reinvested.

—and may also come from credit creation and dishoarding

Capital disposal or money capital is however a term which includes not only saved or resaved purchasing power, i.e., new saving and maintained saving, but also new purchasing power created by way of bank credit. This, too, gives command over the services of productive factors for the production of capital goods, and is thus capital disposal. There remains one other source of purchasing power which belongs to the same category, viz., liquid cash balances which suddenly come to be considered by their holders as excessive liquid reserves, and are consequently drawn on for the purchase of production goods and productive services. A concept of money capital which includes

There are thus five sources of supply of money capital.

current savings, *current replacement allowances*, *currently liquidated working capital*, and also *new bank credit* and disbursements of *surplus cash balances* is in complete conformity with the facts of practical economic life as they appear to the ordinary observer who is otherwise unacquainted with economic theory. The inclusion of all purchasing power, which is not used for consumption purposes, irrespective of its source, brings the concept into harmony with the popular conception of money capital. The fact that "inflationary" credit is grouped under a common head along with credit granted out of voluntary savings should not however blind us to their different nature. A more detailed analysis of the alternative sources of the supply of money capital reveals marked differences in their effects on economic development.[7]

"Money" includes bank deposits

If we define money capital as sums of money which are available for the purchase of productive goods and services, and ascribe these funds to five main sources, we must be clear on the following points. In the first place it must be realized that we are using "money" in the widest sense of the term to include checking accounts at the banks. (It is commonly recognized that in the United States and England where the major part of money transactions are carried out by the way of cheque payments, new bank credit is an important source of new money capital.) Further, it is important to recognize that it is impossible to draw rigid lines between the five sources of the flow of money capital. We propose to distinguish (1) the supply of current savings, (2) the current inflow to the replacement fund, (3) the proceeds of the turn-

---

[7] If current saving is regarded as the result of strictly voluntary and spontaneous acts of income recipients, one ought to distinguish two more sources of supply of investable funds: *fiscal savings*, i.e., tax receipts used for investment purposes, and *compulsory insurance funds*, i.e., contributions to social security reserves.

There are no sharp lines between new savings and liquidated working capital,—

—or between new savings and replacement allowances,—

over of working capital, (4) additional purchasing power created by way of bank credit, and (5) disbursements out of surplus cash balances. The distribution of the gross receipts of a business man or of a firm between (1), (2) and (3) is somewhat arbitrary or at least a matter of subjective estimate. That part of the gross receipts which is allocated to the covering of direct costs of production and which represents liquidated working capital is not definitely determinable. This is true in so far as the direct costs, especially the prices of raw materials, are subject to fluctuations, and hidden reserves may be built up in the valuation of stocks of raw materials still on hand. This blurs the line between new savings and liquidated working capital. The part of gross receipts which is regarded as belonging to the replacement fund is still less capable of precise determination. It is only too well known that the amount of depreciation of fixed capital through wear and tear and obsolescence is purely a matter of conjecture. If the depreciation allowances are conservative the replacement fund will appear to be larger, and saving out of business profits smaller, and if less liberal allowances are made for depreciation the figure for saving out of profits will be swollen at the expense of the replacement fund. The rôle played by the valuation of assets in the process of calculating the net income of firms and individuals, and correspondingly in the calculation of the amount which is regarded as having been saved, is sufficiently familiar.[8] These few remarks show that there can be no clear line of division between the supply of money capital derived respectively from the proceeds of savings, replacement funds, and liquidated working capital In a later chapter it will also be shown that the division between these three sources of money capital on the one hand and credit expansion on the other cannot be made with the necessary clarity. We shall see that there is no simple way of dividing bank credit into a supply of current new savings and a supply of inflationary purchasing power; we shall also find that disbursements out of replacement funds and liquid working capital are often difficult to distinguish from increased disbursements out of surplus cash balances And there are other cases where reality cannot be nicely sorted into our "boxes"

---

[8] See the excellent analysis of this problem by G. Myrdal, "Der Gleichgewichtsbegriff als Instrument der geldtheoretischen Analyse," in *Beiträge zur Geldtheorie*, edited by F. A. Hayek, Vienna 1933.

—or between new savings and created credit,—

—or between replacement funds, working capital, and surplus cash balances.

One should distinguish between free capital disposal and invested capital,—

8 Money capital, no matter what is its source, is by definition available for the production of capital goods The concept of capital disposal, which may in many cases be used synonymously with money capital, has, however, been defined by many authors in another way which largely robs it of its usefulness. Thus Cassel, Adolf Weber and some of their pupils do not restrict the term "capital disposal" to the aggregate of the funds available for the formation or creation of real capital, but include as well the funds already invested in the existing stock of real capital It would have been more useful if the term "capital disposal" had been applied exclusively to the free, disposable funds ready to be transformed into future goods (real capital), and had been contrasted with the funds already invested, especially since the latter are represented by already existing real capital There is no possibility of any further "disposal" over this "capital which is invested and not available for other productive purposes"[9]; yet the authors of the term "capital disposal" did intend it to include these already invested

---

[9] Carl Menger, *Grundsätze der Volkswirtschaftslehre*, Vienna 1871, p 134

funds. They may point to the fact that from the standpoint of the individual firm, every item of real capital can be reconverted into "free capital disposal," and that for the determination of interest rates the invested as well as the free capital disposal is of importance.

The theory of interest, however, is just where the distinction between free and invested capital disposal becomes important, since it is only free capital disposal, or, that is, money capital, which constitutes the supply side of the credit market. What is called, for short, "capital supply" on the credit market is the supply of freely disposable money which comes from the sources mentioned above: the proceeds of savings, replacement funds, liquidated working capital, surplus cash reserves and credit creation by the banks. Among the determining factors on the demand side of the credit market is the quantity of capital disposal already invested or, more accurately, the existing stock of real capital,[10] because it is this which affects the expected returns of fresh investment opportunities, i.e., the marginal productivity of capital.[1]

—the former constitutes the supply of credit,—

—the latter affects the demand for credit

The two capital concepts, real capital and money capital,[2] are adequate for all essential purposes of economic analysis. It is fairly obvious that *both* capital concepts, that is, the provision of money capital and its investment in real capital, are relevant to the process of capital formation Whenever we use the word "capital" without a qualifying adjective in our discussion, it will not be difficult to see which of the two concepts is meant The adopted terminology will have to stand the test of its usefulness in the subsequent analysis If the results are satisfactory, it may perhaps help towards establishing a greater degree of uniformity in the vocabulary of economists

---

[10] Friedrich A. Hayek, *Monetary Theory and the Trade Cycle*, London 1932, p. 208.

[1] There is no great difference between Böhm-Bawerk's concept of the "contour lines of the incremental returns" of increased roundaboutness of the process of production (op. cit., p. 466, English edition, p. 405) and the most modern concept of "marginal efficiency of capital."

[2] In the German edition of this book (1931) I used the term "capital disposal" in preference to money capital. I now think that the latter is preferable as it gives rise to fewer misunderstandings.

The term "capital" usually calls for a qualifying adjective.

9 The clear definition of concepts makes it apparent that the question whether the stock exchange absorbs capital is susceptible to a number of different interpretations The answer must deal with various possibilities total absorption *versus* temporary tie-up, of real capital *versus* money capital, in security speculation by professionals *versus* the general public

The main questions for discussion.

It is important, however, not to lose sight of the practical purpose of the whole inquiry The main point at issue is whether security speculation, and its demand for credit deprives other borrowers, especially industrial borrowers, of something This "something," which is alleged to be wasted, is usually said to be "capital" Our investigations will not be complete with the answering of the question as it has been formulated so far The questions which relate in the first instance to the possibility that capital may be withheld from industry may be put more broadly so as to ask whether industry does not (or does not also) suffer in other ways as the result of operations on, and borrowing by, the stock exchange We shall therefore have to extend our inquiry to deal with the often alleged "tying up of purchasing power," and "absorption of means of payment" by the stock exchange, and with its use of bank credit and influence upon the lending capacity of the banking system

This, however, does not exhaust the numerous objections which have been raised against speculation in securities and lending to the stock exchange. We shall have to examine the further contentions that stock exchange speculation causes malinvestment and overinvestment, and that it is responsible for credit inflation on the one hand and dearer money on the other.

With all these sins to account for, our programme is not a small one. The purpose is neither to acquit the stock exchange of the charges brought against it nor to condemn it, nor is it our task to make recommendations of a political nature. We shall take the list of accusations simply as an approach to general problems associated with the relationships between the stock exchange, credit and capital formation. If the results of our theoretical analysis prove useful as a guide to bank policy or trade-cycle policy, so much the better.

CHAPTER III

THE ROLE OF CAPITAL IN SECURITY TRANSACTIONS

10. There is one sense in which the contention that the securities markets involve either a permanent or a temporary absorption of capital is so obviously absurd as to require no further discussion. Real capital or produced means of production, such as bricks, iron girders, machines, pulleys, cranes, &c., are neither absorbed nor tied up by security speculation.

However, even if no sense can be made of the hypothesis that security speculation absorbs real capital, it is nevertheless necessary to analyse those aspects of the *formation* and *utilization* of real capital which link up with the security market.

The relation ship between security transactions and the formation of real capital is to be analysed

11. The stock exchange is the place where securities—negotiable investment claims against assets and their periodical return—are bought and sold. So far as old securities (whether bonds, i.e., fixed interest-bearing securities, or shares, i.e., membership rights in a corporation carrying the claim to a share in the profits) are concerned, it is immaterial from the point of view of real capital formation or its utilization how many times and at what prices these existing titles to a share in the yield of real capital change hands.

The essential function of the security method of raising capital is to facilitate changes in ownership of the titles to real capital. The transfer of other types of equities and of open lines of credits, meets

The security market facilitates changes in ownership of titles to real capital with obstacles which hinder any very frequent operations of this kind. But if the financial participation, or the loan, is acknowledged in some form of transferable certificate, then the exit of an old member of the company and the entry of a new one, or the repayment of one creditor and simultaneous borrowing from another, is very simply arranged through the purchase and sale of the securities.

Shares and bonds—

We are here bringing the two forms of security, stocks and bonds, under one formula which abstracts from the legal distinctions and concentrates on the essential economic characteristics common to both. As to their periodic share in the return of the enterprise we may call both capital shares, while if we wish to emphasize the transfer of purchasing power we may regard both as credit transactions. There has been a great deal of discussion as to whether, for purposes of economic theory, a shareholder is to be regarded as an entrepreneur or a creditor.[1] Both viewpoints are valid and it depends on the purpose of the investigation whether the entrepreneur function or the creditor function should be placed in the foreground. For our purposes it will usually be necessary to chose the latter. For example, a joint stock company has the choice of meeting increased capital requirements either by issuing shares or by issuing bonds. If the company in the given market situation takes the first course, we shall be wise, in treating problems of credit theory, to stress the borrowing aspect of the operation, rather than to consider the purchasers of the new

—both may be treated as instruments in credit transactions.

---

[1] F. H. Knight considers the shareholder as the entrepreneur because he bears the risk of the enterprise. See *Risk, Uncertainty and Profit*, pp. 291 ff. R. A. Gordon on the other hand is more inclined, under the modern separation of ownership from control, to take control as the criterion of entrepreneurship. See "Enterprise, Profits, and the Modern Corporation," in *Explorations in Economics, Notes and Essays Contributed in Honor of F. W. Taussig*, New York 1937, p. 312.

shares as new entrepreneurs Likewise, when we are analysing the case of an investor, who considers whether he should invest his liquid funds in bonds or in shares and eventually decides in favour of the latter, we should not hesitate to class this purchase of shares as a loan operation from the point of view of our analysis of the credit market

The security method of transferring capital —

—short term for the "lender," —

—long term for the "borrower"

The chief advantage of the security method of lending and borrowing is that the credit obtained through the issue of securities is a long-term one for the borrower (in the case of shares, it runs for the entire life of the business enterprise) while from the point of view of the capitalist it is not a long-term loan at all, and has in fact no definite term If the capitalist should at any time need the funds, which he transferred to the corporation, he can get them back by selling his security. As a rule, this withdrawal of the "loan" has no effect on the corporation, because one capitalist's place is taken by another, the new purchaser of the share, and the capitalist who wants to realize his securities will be able to do so without loss provided he has exercised the necessary care in choosing his investment and the security market is sufficiently active.

Effective speculation makes securities more liquid—

12 Professional security speculation creates what may be called a reservoir for the easy equalization of supply and demand at any moment of time, so as to prevent wide fluctuations in security prices due to fortuitous circumstances Without this "reservoir for stray securities" it is unlikely that all shareholders who wanted to realize their securities would be able to find investors who were willing to buy them just at the right moment An offer for sale of securities for which there were no immediate buyers would cause a fall in prices, and shareholders who were obliged to sell on a weak market would recover much less

than the full amount of the money capital which they had placed at the disposal of the corporation when they purchased their shares. This loss to capitalists would not of course represent a loss to society, since the business enterprise, and the real capital belonging to it, would remain unaffected throughout the transaction, unaffected by the change in ownership of the shares. The loss of the capitalists who sold at a low price would be balanced by the gain of the buyers who bought so cheaply. Owners of capital funds would, however, lose confidence in the possibility of being able at all times to sell securities without loss, and without this confidence there could be no "security capitalism"[2], there would not be the same full utilization of the smallest amounts of capital, and savings which were not intended to be of a long-term character would remain idle as the saver would wish to keep them in a form in which they would be available for use at all times. Thus there would not be the same quantity of capital invested in industry as is possible through the institution of the security form of finance, and the active security market that goes with it.[3]

—and encourages investment of temporary savings

The function of the professional security speculator, or jobber (specialist), consists in this widening of the market which gives it the capacity both for taking up a sudden offer of securities for sale and for satisfying a sudden demand for securities. It is only the existence of professional security speculation that can prevent price fluctuations which are unrelated to judgments as to the yield and safety of the security. Moreover, the professional speculator's carrying capacity is of importance in providing a fluid market not merely for the realization of old securities but also for the issue of new ones. These security issues are held by professional speculators until they are purchased by more permanent holders, only gradually will the stray securities be taken out of the reservoir provided by the speculators and absorbed in the channels provided by the savings of the public.

---

[2] Robert Liefmann, *Beteiligungs- und Finanzierungsgesellschaften*, Jena 1909. The term "security capitalism" has recently been adopted by George W. Edwards, *The Evolution of Finance Capitalism*, New York 1938.

[3] To use the terminology of Keynes: Without effective security speculation, securities are less liquid and the liquidity preference for money rises considerably. See Keynes, *General Theory of Employment, Interest, and Money*, pp. 226-9. Similarly F. Lavington, *The English Capital Market*, p. 95; Charles O. Hardy, *Credit Policies of the Federal Reserve System*, pp. 330 and 331.

Professional speculation provides a market for stray securities

13 While, as has been indicated above, the mere change of ownership of existing securities, whether between genuine investors or between speculators, has little or nothing to do with the formation or utilization of real capital, the issue of new securities may mean the allocation of new money capital to industry. We say "may" because there are cases of issues made by investment trusts which use the proceeds to purchase already existing shares, so that the transaction represents a mere change of ownership. Or it may happen that the issue is nothing more than an operation for the conversion or funding of a previous loan or credit, in which case it is again not relevant to the formation of real capital. An industrial enterprise may have financed an extension of its plant provisionally by means of overdrafts and open book accounts. When it later funds its debts by increasing its capital stock (issue of securities), this second transaction has no impact on the sphere of real capital. All that takes place is a change in the person of the creditor: the first lender has his money capital returned to him and the subscriber to the new issue puts in his. The fact that the money capital which is released flows back to the "money market," and that the newly invested money, on the other hand, comes

New security issues may mean allocation of new money capital to industry

This is not true for new shares of investment trusts or for refunding operations.

from the "capital market," is a technicality which does not concern us in the present context.

14. Let us now follow the chain of economic events which lead to the formation and installation of real capital.

Saving alone is not sufficient for capital formation: it requires investment also

Capital formation arises out of the application to productive purposes of that part of income which is saved. The refraining of an individual from consuming part of his income does not of itself lead to capital formation. If there is to be capital formation, the postponement of consumption ("waiting," or foregoing of present goods) needs to be supplemented by the creation of means of production ("investment," or production of future goods). In a money economy, when an individual refrains from using part of his money income as present purchasing power and saves it by putting it aside in a stocking or a money box, or by leaving it idle on current account at his bank, capital formation fails to take place, and saving by the individual does not give rise to saving from the point of view of society as a whole. The withdrawal of means of payment from the market, as the result of hoarding, tends to augment the purchasing power of the whole of the rest of money income. If the money prices of productive factors were sufficiently flexible, the income given up by the saver would accrue to other people in the form of a corresponding increase in their real income. There would thus be no restriction of the total consumption of present goods and no extension of the production of future goods, unless it were to the extent that the deflation raised (through lower prices) the purchasing power of investors as well as that of consumers. The reduction of consumption by the saver leads, when it is not accompanied by corresponding investment, and when factor prices are rigid, to a curtailment of production and to unemployment. This theme has received sufficient emphasis in recent years as not to require further mention here.

A process of capital formation is set in motion only if the income which is not consumed is used for production. It does not matter whether the saver is himself the entrepreneur or whether he places his purchasing power or money capital at the disposal of another entrepreneur. The process of transferring savings to the producers may be performed through the borrowing and lending facilities of the savings banks, but mainly through the capital market which centres around the securities market. Which one of these organizations for transferring savings will be used will depend in each case on judgments as to risk and liquidity (the possibility of withdrawal or realization by selling) and prospects as to yields. If the savings are put into savings bank deposits, the yield will be equivalent to the interest payment. If they are used to purchase fixed interest-bearing securities (mortgage loans, bonds, debentures) the yield will take the form of interest and capital appreciation. If they are used to purchase shares, the yield will consist of dividends and capital appreciation. The relative attractiveness of savings deposits, the bond market and the stock market, changes with the different phases of the trade cycle. From time to time various economic reasons, usually depending on the experiences in the immediately preceding period, are also advanced for preferring, from the point of view of "society," one way of using savings to another.

Ways of transferring savings to producers.

15. By way of continuing our analysis we may suppose that the money finds its way to an industrial firm through the purchase of newly issued shares of this

Money capital may be used for the formation of real capital—

firm by the saver. We may take the case of a firm which plans to extend its power plant by building a new water dam. The money capital of the saver will then be used by the investor for the creation of real capital in the form of a dam.

—or for the purchase of already produced capital goods,—

We purposely chose the example of a dam because that is a clear case of a formation of new real capital. The case is different if the firm buys machines which have previously been held in stock by the manufacturer in the expectation (justified by past experience) of a forthcoming demand for them. In that instance, the real capital already exists, and the money capital transferred to the firm in question is merely used to buy already produced real capital. But what was the source of the funds which made the production of this capital good possible? The stock of machines ready for sale is a part of the circulating capital of the machine factory. No matter whether the machine factory obtained its circulating capital from the money market or whether it took it from its own resources, money capital from somewhere must have been used in the production of the machine. This part of the machine factory's circulating capital is now turned over, i.e., the factory gets back the money capital embodied in the inventory by selling the machine. What makes it possible in our example for the machine factory to recover this circulating capital in liquid form? It is made possible by the fact that the purchaser of the shares puts money capital at the disposal of the firm buying the machine.

—in this case it liquidates circulating capital tied up by the producers of the capital goods

In this example we illustrated the taking over of already produced real capital from the stocks of finished goods of the machine factory. The same kind of thing takes place in part when the machines are produced to order. This is true for the following reason: whether the machine factory already has the necessary materials in its own stocks of raw materials, or whether it has to obtain them from the stocks of finished goods ready for sale at the iron foundries, &c., these materials were already, in large part at least, previously produced real capital. They represented previous investment of circulating capital by the firms concerned. Thus the production of machines constitutes in part the *employment of real capital already in existence* and in part the *formation of new real capital,* the former to the extent to which materials previously produced are taken over and equipment previously installed is used up, the latter to the extent to which services are added in the production of the machines.[4]

Many cases combine formation of new capital with liquidation of old capital

16. Thus far we have acquainted ourselves with a number of cases in each of which the firm raises its money capital by way of an issue of shares but with different effects in the sphere of real capital.

In one case the newly raised money capital was used to repay a bank loan. Here the real capital had obviously been produced previously by means of the bank loan, and the new money capital (derived from the issue of shares) merely took the place of what was paid back to the first lender whose funds then became free again for new lending.

Different uses of the new money capital raised by corporations are reviewed.

In the second case the new money capital was used to build a dam, and here the new money capital clearly led to the formation of new real capital.

In the third case, the new money capital was used to procure finished machines from inventory stocks. This implied the taking over of already produced real capital with the result that the money capital previously invested in the latter was released for use elsewhere. A fourth case was a combination of the second and third cases.

---

[4] The concept "value added by a certain manufacturing process" cannot serve fully as a measure of formation of new real capital by this manufacturing process because it contains a portion of depreciation of the existing equipment.

Mention may also be made of a further case where the new money capital is intended for the production of new real capital, but instead of being invested immediately after it is subscribed, it is invested only gradually as the work of construction proceeds. The money capital which is not required until later may be supposed to be lent to the money market on short term[5] until the date when it is required.

Money capital is absorbed where real capital is produced.

The foregoing examples showed that where new money capital was absorbed (i.e., tied up without release for use elsewhere) there was formation of new real capital, where there was no real capital formation, there was no absorption of money capital. The mere exchange of money capital did not involve absorption, since, the moment the new funds were invested, the previously invested funds were released. Nevertheless there may be some doubt whether there is not a delay before the released funds are utilized again. But a delay in making use of money capital will be penalized by loss of interest, and every private individual, more especially every business firm, tries to avoid this whenever possible. In any case the problem of delays occurring in the utilization of purchasing power when it is transferred is a subject which will be dealt with in detail in subsequent chapters.

So far, we have been concerned with the case of the absorption of money capital in the purchase of newly issued shares. We have still to consider the possibility of the absorption or tying up of money capital by transactions in old securities.

---

[5] Certain doubts connected with what is usually assumed to be short-term capital investment will be dealt with in Chapter XIII.

Do transactions in old securities tie up money capital?

17. It was Cassel who once made the statement[6] that "a reproducible durable good can exercise a demand for capital disposal once only, and the extent of this demand is equivalent to the costs of production of the good." Capital goods, then, require money capital once, i.e., when they are produced. When they are exchanged, or when the shares representing titles to them are exchanged, they require no additional money capital.

However, a purchaser of shares (who buys on a speculative market when stock prices are rising) often has to pay a larger amount of money capital than was required at the time of the production of the real capital behind the securities. Does not this experience contradict what was said above? The contradiction is apparent only, as may be seen when one realizes that the larger amount of money capital which is invested by the purchaser of the shares becomes free simultaneously in the hands of the seller of the shares. Let us suppose that capitalist A originally purchased shares at the price of $100 and that the issuing firm produced real capital for this $100. Now at a time when security prices are booming, capitalist B offers A a price of $120 for the same shares and uses his savings to buy them. What is the amount of money capital which is now tied up; is it $100 or $120 or $220?[7] The simple consideration that the $120 paid by B is at the free disposal of A at the conclusion of the transaction should indicate that, in spite of the speculative purchase at the price of $120, the amount of money capital tied up is still only the original $100.

---

[6] Gustav Cassel, *Theoretische Sozialökonomie*, second edition, Leipzig 1921, p. 187.

[7] Even this does not exhaust all the possible alternatives. According to Mr. Moulton's theory the result of the calculation would be $140 or $240 since he counts the seller's profits of $20 twice. This will be dealt with in Chapter IX.

This rather simple judgment, however, meets with serious objections which are not without justification. With his customary self-confidence, Cassel, who was quoted above in this connexion, completely ignored this issue so that there is all the more reason why we should examine it here. First, however, let us elaborate upon the example used above to illustrate another important charge which is brought against security speculation.

Consumption of stock exchange profits is at the expense of capital formation

18 Granted that the seller (A) of the shares has the $120 at his disposal as the result of the sale, will he not treat the profit of $20 as income, and consume it? Does not the rise in security prices lead to the consumption of the amount of capital appreciation of the shares and thus cause an "absorption," namely, the consumption of a large part of the new savings? If A who sells the shares reinvests $100 (that is, the amount of savings invested by him in the first place) but consumes his gain of $20, then $20 out of the $120 newly saved by B is withheld from real investment and used for consumption purposes.

The possibility that capital may be diverted into consumption channels through the consumption of profits is usually looked upon as being peculiar to security speculation. If any producer, let us say a manufacturer of machines, uses his profits for consumption purposes, this does not usually evoke the protest that capital is being taken away from its proper uses. And yet this profit is nothing other than the difference between the money capital obtained from the sale of the machines and the money capital used in their actual production. If an industrial firm uses the funds it has borrowed to purchase machines for $120 from a manufacturer who produced them at a cost of $100, then the consumption of his profits by the machine manufacturer uses up $20 of new savings.

It is said that profits from speculation are more likely to be consumed than other profits

All consumption of profits—apart from those in consumers' goods industries—may be said to be at the expense of capital formation no matter in what stage of production the profits arise. It may be that there is a particularly strong tendency among security speculators to consume their profits, although it is difficult to find conclusive evidence that this is so.

19. The question may now be asked: Is it not possible that the sellers of shares may consume the whole of the sales proceeds? Certainly they may, and indeed it very frequently happens that shares are sold by their holders for the express purpose of using the proceeds for consumption purposes. It must not be forgotten that not only permanent, but also temporary short-term savings, are invested in shares. Indeed, as has been pointed out in an earlier paragraph, it is the main advantage of the security system of financing real capital that it allows temporary savings put by for future requirements (that is, temporarily postponed consumption) to be used for the formation of fixed capital. This procedure necessarily implies that "temporary savers" will withdraw their savings in order to use them for consumption.

Temporary savings are used for financing real capital formation—

—and later withdrawn for consumption

Admittedly such withdrawals of capital on a large scale may have adverse effects on production, possibly preventing the maintenance of production at the current level, but this is less likely to happen under the system of financing through securities than under any other system. Even if it should happen at any time that savings of a temporary character are withdrawn (for previously postponed consumption) in excess of new temporary savings invested by other individuals, it will seldom be the case that the sum of

Such withdrawal is financed by new savings—

the new temporary savings plus the sum of the new permanent savings will be exceeded. It may be necessary to use new long-term savings to cover withdrawals of other savings, but the fact that in this case the new money capital does not lead to the production of new real capital means only that the real capital was produced in advance, i.e., before the long-term savings were offered on the market.

—the original investment still stands

If, however, the withdrawals by "temporary savers" should not be covered by new short-term and long-term savings together there remains the buying power of professional speculators to fall back on. If even this is not sufficient (in practice a large part of temporary savings are used to finance security speculation), then, as was mentioned in section 12, the deficit still does not take effect on the side of real capital; the losses of the shareholders who sell out simply mean that the latter have so much less to consume. The money capital which was originally invested in real capital will remain fixed in this real capital until it is fully amortized.*

The proceeds from selling old securities also may be used for investment in real capital

20 Security holdings are sometimes realized, not because the owner wishes to use the proceeds for consumption purposes, but because he wants to invest his money capital somewhere else. It is a widespread practice for firms to invest liquid funds for a temporary period in securities (either of other undertakings or of their own) and later to withdraw them, by the sale of these securities, when it becomes more profitable to use the money capital in their own businesses. If the securities are taken over by new savers, the newly saved money capital may thus flow into industry despite the fact that no new shares are issued

---

[*] See Halm, op. cit., pp. 14 ff.

and that the new savings are used first to buy old securities.

The flow of money capital to the securities market can thus lead to the formation of new real capital, even if there are no new security issues, so long as the seller of the old securities uses the proceeds for real investment. If the transaction causes a rise in the price of the security, then the seller has so much more money capital available for "productive" investment.

21. Support is lent to the argument that security speculation ties up capital by the consideration that the speculators, particularly the professional speculators (jobbers and dealers) need money capital with which to carry out their operations. In examining the rôle of money capital which is "tied up by speculation," we may refer back to the observations concerning the function of professional security speculation made in an earlier section. According to these observations, it is the function of the professional speculator always to be ready to take up securities when no investor is immediately at hand. So far as newly issued shares are concerned, it is clear that the money capital of the speculators is invested in the newly built capital goods of the issuing corporation. So long as the speculative market has to "hold the baby," as the jargon of the market expresses it, when a new issue is not immediately taken up by the public, the money capital that is "tied up in speculation" is no doubt tied up in production.

Money capital may be used by speculators—

—for carrying new securities temporarily—

What productive service is performed by the money capital which is used for speculation in old securities? The service performed is filling the gap which is created when money capital is being withdrawn by one saver and no other saver is ready at the moment to take his place. The speculator jumps into the breach

—and for carrying old securities—

and takes over the title to capital goods[9] for a temporary period with his own money capital.

The funds used by the speculators take the place of the money capital of the previous holders of the shares and they are invested in capital goods and therefore in production.[1]

—and for "standing by."

When someone stands ready to provide a service in case of need, he is attached to the place without always having real work to do. He is merely "standing by." This does not mean, of course, that this is the only function of speculative funds and that they do not also have a part to play in the productive process.

If the service of "standing by" is recognized as being useful, no objection could be raised even if it did tie up money capital. But it cannot be shown that it does so. The professional speculator seldom keeps large funds on hand without using them since it usually does not pay to do so. The funds owned by the speculators are almost always invested. They borrow from the outside to the extent that they require funds for paying the sellers for the additional securities which they buy.[2]

22. Against all this it has been contended that money capital may be tied up without being either invested in fixed capital or simultaneously released somewhere else. Before going into the arguments on this issue, however, it will be useful to summarize the results so far reached.

---

[9] It may be repeated that the already existing real capital always compels the provision of capital disposal. See the excellent article by G. Halm which was cited above. If a speculator did not take over the shares that were offered for sale, then the necessary capital disposal would come out of the "bargain price" paid by the buyer and the "loss" suffered by the seller.

[1] "This operation of carrying is the essential part of the speculator's work . . . , but the public advantage to which this operation gives rise . . . is most conveniently expressed in terms of an increased marketability of stocks and shares." Lavington, op. cit., p. 236.

[2] See Chapter VII.

The alternative ways of using the speculator's money capital are summarized

Assuming that a speculator has obtained money capital either direct from the saver or from a bank, there are the following alternative ways of using it —

(1) The speculator buys newly issued shares. The issuing corporation uses the proceeds to repay a bank loan. The money capital is thus once again at the free disposal of the original lender.

(2) The speculator buys newly issued shares. The issuing corporation uses the proceeds at a later date or gradually over a period for extending its plant; in the meantime it relends the proceeds at short term on the money market. The money capital is at the free disposal of the short-term borrower.

(3) The speculator buys newly issued shares. The issuing corporation uses the proceeds to buy already produced instruments of production, or to produce or purchase capital goods whose manufacture involves for the most part the utilization of already existing capital. In this case the money capital serves to take over or employ already produced real capital. The money capital is thus at the free disposal of the producer of the capital goods.

(4) The speculator buys newly issued shares. The issuing corporation uses the proceeds to produce capital goods, which are produced in the main without the employment of already existing real capital. In this case, the money capital serves to construct new real capital.[3]

(5) The speculator buys newly issued shares. The issuing corporation uses the proceeds for the purchase of other securities. This may be the case of a producer who buys the shares as a temporary investment, or the case of an investment trust whose regular business

---

[3] In actual fact all real investment consists partly in outlays of type (3) and partly in outlays of type (4).

consists in investing in securities. If the securities acquired by the concern are newly issued shares, cases (1-5) become relevant and if they are old shares, cases (6-10).

(6) The speculator buys old shares. The seller uses the proceeds to repay a loan. The money capital is thus at the free disposal of the original lender.

(7) The speculator buys old shares. The seller uses the proceeds to make a loan. The money capital is put at the free disposal of the borrower.

(8) The speculator buys old shares. The seller uses the proceeds in production as in case (3). The money capital serves to take over or employ already produced capital goods. It is thus placed at the free disposal of the producer of the capital goods.

(9) The speculator buys old shares. The seller uses the proceeds in production as in case (4). The money capital serves to produce new real capital.

(10) The speculator buys old shares. The seller uses the proceeds for consumption purposes. Here the money capital serves simply to replace temporary savings withdrawn for consumption.

In cases (3) and (8), in (4) and (9), and in (10), the money capital is used for the purchase of goods or services. In the first four of these cases it is used for the purchase of productive goods and services, and in the last case, (10), for the purchase of consumption goods and services. In so far as these consumption goods, in case (10), are sold out of stocks, the money capital is transferred, as in cases (3) and (8), to the sellers of these stocks. Where "original" services are purchased, the money capital becomes the money income of the productive factors, and this purchasing power loses, for the time being, its character of capital. If we neglect "dissaved" amounts which are used to purchase consumption services, we may say that cases (4) and (9) are the only ones where money capital is "absorbed," for it is only here that the purchasing power ceases to be money capital when it comes into the hands of the recipients. These are the cases where the money capital is used to create new real capital.

The money capital is either used in the production of real capital—

—or it is still at somebody's free disposal

In all other cases the money capital is at the free disposal of its recipients, first, in the hands of the seller of the shares, and, subsequently, in cases (1) and (6) (loan repayments) in the hands of the previous lender, in cases (2) and (7) (new lending) in those of the borrowers, in cases (3) and (8) (purchase of existing real capital) in those of the producers, and in case (10) (purchase of finished consumption goods) in those of the retailer. In all these cases the money capital remains "unabsorbed" and simply changes hands, finally becoming "absorbed" when it is used for the creation of real capital. In all cases, furthermore, money capital was used in ways in which it could have been used also had it been transferred not through stock purchases but through any other form of credit transaction.

It is of course possible that the seller of the shares, or the lender who (in cases (1) and (6)) has his loan repaid, or the producers who (in cases (3) and (8)) sell their stocks, may not want to spend the money capital which they receive, but want to keep it liquid. These would be cases of an increased desire to hold cash, usually described as increased hoarding, but they are not specifically connected with a universal speculative boom.[4]

However it may be hoarded—

---

[4] Chapter VIII will be devoted to this problem.

—or used for repeated stock exchange transactions.

The money capital which is transferred by way of stock transactions may, however, be used again to make a loan to the stock exchange or to purchase other securities. It is to these possibilities that we now turn our attention.

CHAPTER IV

THE ABSORPTION OF CAPITAL IN STOCK EXCHANGE SPECULATION

23. What does it really mean to say that money capital is absorbed in unproductive uses? By definition money capital is purchasing power which, not being used for present consumption, is available for the production of future goods or, that is, of capital goods. The foregoing of present consumption would make it possible to increase the productive yield of the future. It seems to be a recognized objective of economic policy that such productive opportunities should be utilized, for otherwise so much productive energy is lost to future production. But this is exactly what would happen if money capital were "absorbed" before it could be invested in productive enterprise. The case of such "absorption" is analogous to the case of hoarding.

Unproductive absorption of money capital would involve a loss of potential energy to production

An individual saver who does not invest loses potential income

It was mentioned previously that saving by the individual does not necessarily lead to saving from the point of view of society, such is the case when the individual forgoes the consumption of part of his income but does not put it to any productive use. When the individual hoards—saves without investing—he loses the interest which would have been yielded by an investment. We have then to ask whether the loss to society is identical with the loss of interest on the part of the individual who hoards his savings. As a first approximation it might be argued that the net product of the more roundabout methods of production, which are made possible by the investment

Is the loss from hoarding to society identical with the interest lost to the hoarder?

of money capital, is imputed, and paid, to the saver in the form of interest, and therefore that the loss of social net product is already allowed for in the loss suffered by the individual saver; that it would thus be double counting to consider the loss to society as something over and above this. This conclusion overlooks the point that the marginal productivity of other factors, as well as that of capital, has to be considered. An increase in capital equipment is associated with a decline in the marginal productivity of capital and a rise in the marginal productivity of labour. The fact that this shift in the distribution of the national income fails to take place if savings are not invested has to be taken into account in addition to the loss of interest.

Marginal productivity theory shows that the loss to society is slightly greater

These considerations belong to the "pure theory of distribution," and completely neglect certain propositions that have been established by "monetary theory", it is, however, becoming more and more evident that it is not permissible to disregard the "monetary aspects".[1] The loss which society suffers when money capital is not used, or when it is unproductively "absorbed," goes far beyond the loss of interest, because of the deflationary effects. Even with ideal flexibility of all prices, including wages, the deflationary effect would spread over the various branches of the economic system only gradually, and the various "lags" would have a chain of disturbing effects. When prices and wages are less flexible, and even rigid, the deflationary effect may entail long-lasting unemployment. It is no wonder that in times when wage rates are very "sticky" every potential deflationary influence is examined with almost painful precision.

Monetary theory points to further losses through the deflationary effects of hoarding

---

[1] In the German edition (1931) I did no more than refer to these points in footnotes and was justifiably criticized in consequence.

24. So far we have admitted the absorption of money capital only where this absorption was "productive," or that is, where it led to new real capital formation. In all other cases we argued that there was only a transfer of funds from one person to another. If A, who is speculating for a rise, buys shares from B, then exactly the amount of money capital that is given up by A is placed at the free disposal of B at the conclusion of the transaction.

Is there absorption if B receives what A pays?

We must now make sure that the argument is not invalidated by the "neglect of the time element." Economic theory abstracts from the passage of time on purely didactical grounds but frequently commits the error of failing to recognize that such an abstraction is not permissible in the final stages of the analysis. The argument so far developed has abstracted from the time element in two respects. First, it overlooked the circumstance that the mechanism of payment requires time, and that between the transfer of funds from the buyer of securities to the seller and the further utilization of their corresponding purchasing power, a certain time elapses during which the money capital may be regarded as tied up. Secondly, it neglected to consider that in times of heavy speculation, the sellers of shares may use the proceeds to purchase other securities, that thus a long interval may elapse before the series of transactions of this kind is finally terminated by a seller who turns the proceeds of his sale into productive channels instead of using them for further security transactions.

The time element requires examination,—

—the delay of B's disbursement after A's payment may be considerable,—

—a delay may be caused by use of funds in continually repeated speculation.

The first point is more a question of monetary theory, since it concerns the general aspects of the tying-up of purchasing power or media of exchange. This side of the problem will come up for discussion later on (Chapters VI and VIII), and here we need only anticipate the conclusion by indicating that it does not lend much support to the "absorption" argument The second point will be discussed at once

25 The contention is that at certain times the seller of shares re-employs the proceeds "for a speculative purchase of other securities which he now considers to hold out better prospects of speculative gains",[2] and that through a long chain of similar transactions the money capital is continually locked up in security speculation without being "used anywhere else in the economic process "[3]

It is contended that money capital is tied up in a long chain of security transactions.

The money capital which is used to buy newly issued industrial shares is believed to flow into "productive channels " The speculation, which is supposed to tie up capital, is meant to refer only to old shares or to newly issued shares of investment trusts and holding companies which use the funds to buy blocks of already existing securities The case where the sales proceeds are used forthwith for further speculative transactions so that the money capital is retained on the stock exchange[4] is neatly illustrated by Reisch in the following example "Let us suppose that 10 different shares, A to K, are dealt in on the stock exchange and that the issue proceeds of 1 million dollars each has flowed into the economic system in the ordinary way A part of these shares, let us assume for simplicity 50% of each, has not yet passed into the hands of investors but has remained in the hands of speculators these shares form the stock in trade of the speculators and

An example of a long chain of trading supposed to prove temporary absorption are traded from one to another among them as they see fit. Suddenly a speculative movement sets in and induces investor X, who perhaps borrows from his bank for the purpose, to buy 50% of the volume outstanding of the A shares, which in consequence of his demand rise in price by 10%, for $550,000. The sellers who, in view of the boom sentiment, wish to speculate further, use their sales proceeds to buy up the B shares, whereupon the sellers of the latter again proceed to buy up the C shares and so on. The prices of all these shares naturally rise in consequence and cause the operators on the stock exchange to borrow from the banks to meet the higher prices and/or to facilitate an increase in their holdings of newly issued shares. As these purchases always take time to conclude (from settlement to settlement) and also take place one after the other (A buys from B, B from C, and so on), and continue indefinitely, it is clear that not only the new funds used to purchase shares by X, but other credits besides may be taken for stock exchange transactions without any immediate reflux into the economic system."[5]

---

[2] Richard Reisch, "Uber das Wesen und die Wirkungen der Borsenkredite" *Bankarchiv*, XXVIII 1929, p 13 (of the offprint)

[3] Reisch, "Ruckwirkungen der Borsenspekulation auf den Kreditmarkt," *Zeitschrift fur Nationalökonomie* Vol. I, Vienna 1929, p 209

[4] Cf also Harold L Reed, *Federal Reserve Policy, 1921-1930*, New York 1930, p 150 'Only increases in security turnovers permanently sustained represented unmistakably 'absorption' of bank funds '

Reisch does not deny here "that the proceeds of the sale of shares by a speculator who withdraws from the speculative market, finally flow back into the economic process,"[6] but at the same time he holds "that it may take a long time—months or even years—before this happens. The argument shows convincingly that stock-exchange operations may temporarily tie up capital and use credit which is not immediately put back into the economic system."[7]

---

[5] Reisch, "Rückwirkungen," p. 206.

[6] *Ibid.*, p. 207.

[7] *Ibid.*, p. 206. Similarly H. L. Reed, *op. cit.*, p. 162: "If credit dispatched to the street participates in a large number of security turnovers, a considerable period of time may intervene before the credit returns to an industrial or agricultural use." Professor Reed adds however: "But the volume of security turnovers does not by itself prove any withdrawal of bank credit from other demands."

The subsequent analysis will show that there are situations in which a temporary locking-up of money capital may take place, but that certain special conditions have to be fulfilled before such situations can exist.

26. In the example above, the allocation of new money capital to the purchase of old securities was said to have led to a rise in security prices and a retention of the money capital in security transactions. It is sometimes supposed that the rise in the level of security prices can be taken as a sure symptom of the tying-up of capital in security transactions. This, however, is not so. A rise in stock prices can take place without there being any money capital on the scene.

No additional money capital is necessary for a rise in security prices.

If A, B, and C are holders of different shares and A suddenly buys B's securities at a price of 110%, B acquires C's, and C A's, all at the higher price, no new money capital is needed to carry out these transactions. Again, if the securities initially held by A, B, and C are bought by bull speculators or investors X, Y, and Z at prices of 120%, there is still, according to the argument of section 17, no necessity for an additional tying-up of money capital.

It seemed important to refer once more to this circumstance that, with or without changes in the person of the holder, a rise in security prices can occur without any increased use of money capital. Cassel has laid particular stress on this fact and was convinced that there would be general agreement with his simple exposition.[8] Indeed, so far as the scientific discussion of the problem is concerned, it is fairly commonly acknowledged that the rise of security prices *per se* can never be proof or a symptom of the tying-up of money capital.

---

[8] Gustav Cassel, "Does the Stock Exchange Absorb Capital?", *loc. cit.*, p. 21.

Hence higher security prices are no proof or symptom of a tie up of money capital

27 Granted that security speculation *need* not tie up capital, we still have to consider whether it *may* not do so. We are not here discussing the case of bear sellers who let the proceeds of their sales lie idle. The discussion is for the time being limited to the case which Reisch and most other authors regard as the critical one: the case of continually repeated bull transactions.[a] We may then ask what are the conditions requisite for a tying-up of money capital?

Three conditions are necessary for a tie up of money capital in security transactions —

One of the necessary conditions appears to be connected with the mechanism of payment. The very highly developed settlement technique of stock exchanges introduces conditions that are quite different from those created by the methods of payment used in other markets. If all security transactions came within the clearing arrangements of the stock exchange, and there were no transactions other than those between people who take part in the clearing procedure (brokers and jobbers), then the possibility of the tying-up of money capital would be excluded on purely technical grounds which we shall examine in Chapter VI. For the time being, however, we shall assume that transactions are carried on with cash (coin and notes) or cheque payments. The appropriateness of this assumption becomes clear when it is remembered that the settlement procedure of the stock exchange is restricted to the narrower circle of operators and that transactions between the public and the brokers are completed with the ordinary methods of payment.

—first, that transactions are completed with cash or check payments, —

---

[a] Continually repeated bull transactions take place when the holders of any particular securities estimate the prospects of a price rise in other securities more highly and so sell them in order to buy other securities.

—second, that credit be made abundant,—

A second condition which must be fulfilled if there is to be a tying-up of money capital concerns the extent of credit facilities. The volume of credit must have exceeded a certain magnitude—a magnitude which can only be surpassed under conditions of an "easy money" policy—before the bull sentiment of single individuals can develop into a general bull movement.

—third, that security sales by industrial producers lag behind the influx of new funds.

A third condition is that the new issues of industrial shares, and sales of old stocks by people who withdraw from the stock market, are not forthcoming to a sufficient extent, as compared with the flow of money capital to the stock market. It has already been pointed out that the critics of security speculation think that capital is absorbed in unproductive uses only in the case of transactions in old securities, since they do not doubt that when new issues are purchased the capital flows into industry. Now, is it likely that new capital issues will lag behind the flow of money capital onto the stock exchange? How does the demand for money capital by productive enterprises link up with the flow of capital onto the stock exchange? These are the first questions to be dealt with.

Higher stock prices call forth new issues.

28. Whereas a rise in security prices is no proof that an increased amount of money capital is being employed on the stock exchange, an increased flow of money capital on to the stock exchange always leads, other things being equal, to higher security prices. The rise in security prices in turn gives an impetus to new issues. It is obvious that the best time for corporations to raise new capital is at a time when the stock market is firm, thus showing that there is likely to be a ready sale for new securities. If security prices have risen to such an extent that a chance to issue shares above par is offered, such a chance is not likely to be missed.

The issue of shares at higher prices means a corresponding reduction of the cost of borrowing to the firms concerned. If, for example, a firm has to pay 5% on the capital it borrows, the possibility of issuing new shares at 110% of their face value means a lessening of the cost of using capital by about ½% on the capital and by about 10% on the capital charges.[1] Higher share prices mean, *ceteris paribus*, cheaper credit for issuing corporations. Is it likely that this cheaper industrial credit will fail to find "takers"? In normal times, or in times when entrepreneurs are inclined to be optimistic, there can be no doubt that the demand for long-term capital is not too inelastic. (Some writers deny this, but there is little evidence to support their view.) A flow of money capital onto the credit market leads to a fall in the interest rate until there is sufficient demand, at the lower interest rate, to take up the funds being offered on the market. On the securities market the same process takes place through movements in security prices, so that when there is an increased supply of money capital, the corresponding increase in the amounts demanded appears in the form of new issues.[2]

The industrial demand for money capital is normally not too inelastic.

We saw in Reisch's schematic example how the money capital flowing onto the securities market competed for existing shares. In consequence of this competition the prices of these shares rise so that, *ceteris paribus*, they yield a correspondingly reduced return. This will most likely lead to an offer of new securities on the market or, that is, to a demand for the new and cheaper money capital, just as happens on the market for direct credit when an increased supply of money capital competes for borrowers and in this way pushes down the interest rate. One may argue that at lower interest rates people desire to hold higher idle cash balances, i.e., that they will prefer increased liquidity for speculative motives. The discussion of this argument is reserved for a later chapter. But no one would argue that an increased supply of money capital on the credit market will simply be tied up in an endless chain of transactions; that one capitalist will merely take over the loan made by another. Such an argument would imply that a fall in the interest rate fails to lead to an increase in the amount of credit demanded, and that the new money capital only takes the place of previous loans, which in turn replace other loans, and so on, and so forth. The new money capital would indeed be tied up in an unproductive use, since it would only proceed through a series of credit transfers instead of finding new borrowers. This hardly sounds like a description of anything that is normal, either for the case of funds offered in the form of direct loans or for the case of funds which go into the purchase of securities. (Since we are here discussing a rise in the stock market, we are not concerned for the moment with the low elasticity of demand for money capital which is a feature of times of depression.)

---

[1] If we suppose that the firm obtains $110 for $100 par value and it pays a $5 dividend on this share, the effective interest rate is only 4.55%.

[2] Cf. John Maurice Clark, *Strategic Factors in Business Cycles*, p. 59: "The strengthening market makes the issue of new securities more attractive, at the same time that reviving confidence and business activity increases the desire and need of corporations to obtain increased capital by new issues."

Additional outlets for new money capital will be found without awaiting solicitation among old borrowers

New issues may even outstrip the additional supply of money capital

The effect of a livelier share market in calling forth offers of new shares is an undeniable fact to which every business man will testify. It may even happen in the course of a speculative movement that the supply of new shares outstrips the supply of new money capital; after a series of new issues has been successfully placed, a time comes when further issues "fail," and the banks have to discourage further flotations because the stock exchange is not capable of taking up any more. This is a sign that all the money capital flowing onto the stock exchange has already found its way into industry. The stock exchange credits are, then, not tied up in "speculative business" but have (except to the extent that a larger amount of cash is being held by the nervous bears) found their way onto markets for consumers' or investment goods.

29. In order to guard against renewed objections that the arguments advanced here pay insufficient attention to the time-factor, it is worth while recalling that in all causal connexions which are analysed by economic theory certain time-lags are presupposed. "The idea of causality is inseparable from the idea of time."[3] The investigation of the "problem of determining the time-coefficients"[4] is at present only in its infancy. There is, however, reason to believe that the error involved in assuming that the time-coefficients can be neglected is considerably less in those markets which we are accustomed to call speculative markets than anywhere else in the economic system.[5] Moreover, the problem of the length of the lag (if it exists) between a sudden increase in the flow of money capital on to the stock market and the increase in the flow of money capital through security issues into production is further simplified by the fact that stock exchanges have the character of forward dealing markets—whether these forward dealings are carried on openly or in the disguised form of lending transactions. In many cases an order for the purchase of shares will be given at a moment when the purchaser

Time-frictions are generally less important on security markets than in the sphere of production.

---

[3] Carl Menger, *Grundsätze*, *loc. cit.*, p. 21.

[4] P. N. Rosenstein-Rodan, "Das Zeitmoment in der mathematischen Theorie des wirtschaftlichen Gleichgewichtes," *Zeitschrift für Nationalökonomie*, Vol. I, Vienna 1929, p. 132.

[5] *Ibid.*

The velocity of reaction of the stock market is relatively high

does not yet have the funds available but is anticipating having them available at a somewhat later date. Thus the mechanism through which the increased supply of money capital—in so far as it is not compensated by spontaneous unloading by temporary holders of old securities—produces a corresponding rise in the quantity of capital demanded, may be set going in advance.

New stock issues follow quickly the rise in stock prices,—

An attempt to demonstrate the speed of reaction of the stock market by statistical time series is made in the Appendix. There the time series for stock prices and new issues are set forth side by side. The result seems to bear out the theory that the issue of new shares follows immediately the rise in share prices and that therefore the quantity of shares offered rises as soon as an increase in the demand for shares is perceptible, or in other words that the quantity of money capital demanded increases as soon as there is a noticeable increase in the supply of money capital.

—but immediate reaction does not prove absence of lag because new issues may not absorb all the money capital supplied

This does not however prove all that had to be proved in order to controvert the argument that a temporary "absorption" of money capital takes place. Even if the velocity of reaction were so great that no time at all elapsed between the rise in stock prices and the new issues, the extent of the reaction might still be too small. The resultant reaction might, for instance, only conduct half or even less than half the flow of new money capital into industry. The fact that the reaction sets in immediately does not prove that there can be no lag between the offer and the taking up of the total amount of capital suddenly appearing on the stock exchange in search of investment.

30 We must not deny, therefore, that our "third

condition'' (the lack of a corresponding demand for the new money capital) may prevail in certain circumstances. It has to be admitted that situations may arise in which new issues do not come forth to the same amount, or at the same speed, as the flow of new money capital onto the security market. Such is the case when a quick and large increase in the supply of money capital (i.e., the demand for securities) occurs, then the demand for money capital (i.e. the supply of new securities) may not keep pace. The lag of issuing activity behind the flow of capital onto the securities market would, however, not of itself justify the presumption that part of the money capital is not flowing out into production, since the balance might be finding its way into production through the realization of old security holdings by producers. It is quite conceivable that in times of increasing stock market activity, firms which have been holding their own or other securities may decide to sell them and use the proceeds for productive purposes. (Cf. above § 20.) And it is most probable that another part of the money capital that has flowed onto the stock market will make its way, through the realization of security holdings by profit takers, to the markets for consumers' goods. (Cf. above §§ 18 and 19.)

Deficiency of new issues, however, is no proof of lag, since producers may sell old security holdings.

A situation in which the realization of temporary security holdings together with new issues of productive enterprises lag behind the increased supply of money capital (as according to our ''third condition'') can be explained only in terms of an *excessive* supply. This excessive supply is likely to arise only if the natural sources of money capital—new savings plus replacement funds—are augmented by a large volume of capital from the ''less natural'' sources of created

''Inflationary'' credit supply may account for excess of supply over quantity of money capital demanded through and internal stock sales bank credit (and dishoarded funds).[6] Since the extension of these sources of money capital, especially the expansion of bank credit, involves a reduction of the rate of interest charged by the banks below the natural rate,[7] our "second condition" makes its appearance. It is only if credit is offered at a rate of interest below the natural rate that the stream of money capital flowing onto the market will reach such proportions that it cannot be taken off fast enough by investment expenditures of industry and consumption expenditures of profit takers. If we picture the process in terms of an "inflow" and "outflow" of money capital, it will appear that there is a temporary "damming up" of money capital in basins created by stock exchange speculation.[8]

---

[6] The final result is the same, but the timing of the forces somewhat different, in the account given by John M. Clark, "An Appraisal of the Workability of Compensatory Devices," *American Economic Review*, Vol. XXIX, supplement 1939, pp. 205-205.
'We may assume that four billion dollars flow into the securities markets seeking investment, while only three billions flow out through the issuance of new securities for the purchase of capital equipment. The natural result is a rise in the prices of outstanding securities. Some of the profits would be taken out to be spent for consumption and some would be reinvested, tending to a continued rise. . . .

'But this is not all since . . . credit funds as well as savings flow into the markets, thus adding to the original one billion of excess funds seeking investment. Then prices of securities may not be stabilized until two or three billions instead of one billion have been taken out and used for consumption. In that case, an excess of savings would have been converted into an excess of spendings, and production, instead of being depressed or stabilized, would be stimulated.'

[7] By "natural rate of interest" I understand the rate of interest at which the total amount of credit demanded is equal to the sum of the proceeds of current intended net savings and current allocations to replacement funds (in the broadest sense) minus any spontaneous disbursements of cash holdings plus any spontaneous building up of cash holdings, after adjustment for any changes in the coefficient of transactions.

[8] This "damming up" would show itself in the form of increased cash holdings (checking accounts) of persons participating in stock exchange operations. It would be interesting to conduct a statistical investigation of the subject, but at present the necessary information is lacking.

31 In examining the conditions of a possible temporary tying-up of money capital in security speculation, we have seen that the "third condition" (a temporary lag of the increase in the amount of money capital demanded behind the increase in supply) is bound up with the simultaneous existence of the "second condition" (increase of the supply through bank credit). The "first condition" (the partial absence of the special technique of payment used on the stock exchange) is also closely associated with this second condition.

As will be shown later, the settlement procedure adopted by stock exchange members renders any considerable use of media of payment (in note or deposit form) unnecessary. If professional speculation involves no "damming up" of media of payment, it involves, of course, no "damming up" of money capital either. But the case is not the same where speculation by the public is concerned. The highly developed clearing facilities apply to business between one broker and another, and not to business between the brokers and private speculators who are not members of the exchange. The latter have to make payment in actual media of exchange (by drawing on a checking account) when they buy securities, and to be paid in media of exchange when they sell securities. We shall see later that the habit which prevails in America, for the private speculator to leave the proceeds of security sales with his broker if he intends to continue his speculation, makes such payments unnecessary. But where the broker habitually pays out the sales proceeds to his customers, speculation by the outside public is associated with the use of media of exchange. Usually, however, extensive speculation by the public only sets in when the development of bull sentiment among them is backed up by an increase in the supply of bank money.

The stock exchange clearing is limited to stock exchange members

Payments between brokers and private speculators may involve cash or bank deposits—

—except if private speculators continue trading by means of brokerage deposits

Speculation by the general public thrives only on abundant credit.

This argument that persistent bull speculation by the general public cannot develop, no matter how optimistic a frame of mind they may be in, unless they have the funds put at their disposal, will be explained further in Chapter VI. Although the previous analysis will have sufficed to show that stock exchange speculation is likely to tie up money capital only when there is an expansion of bank credit, the chain of reasoning will not be complete until we have examined the mechanism of payment on the stock exchange and of brokers' loans. Before proceeding to this topic, however, we will take up the question of stock exchange losses.

CHAPTER V

THE LOSS OF CAPITAL IN STOCK EXCHANGE SPECULATION

32. While it is perfectly clear that an individual capitalist or speculator may make losses on the stock exchange, it is very doubtful whether "society" can make such losses. We are not, of course, referring here to the losses of one society to another, for instance, to the losses which the inhabitants of any particular country may suffer in respect of investments or stock exchange operations abroad. The question with which we are concerned here is whether an individual's losses from domestic stock exchange transactions represent a loss to the society to which that individual belongs.[1] Before we answer this question we must, however, investigate the causes of stock exchange losses.

It is questionable whether stock exchange losses of individuals represent losses to society

A holder of shares suffers a loss when the shares depreciate in value; this may be due to (a) damage or destruction of the real capital of the enterprise, (b) a fall in the prospective profits of the enterprise, (c) consumption of the capital of the enterprise, (d) a rise in the rate of interest at which the profits have to be capitalized, (e) a misdirection of investment by the enterprise, (f) a reaction to a previous speculative over-valuation of the shares.

There are several reasons why stock prices may fall —

From the standpoint of the "community as a whole" these various causes merit different judgments.

(a) When real capital is damaged or destroyed there is undoubtedly a loss of social capital. The fall in the

—real capital may have been damaged,—

---

[1] Cf. R. G. Hawtrey's verdict in *The Art of Central Banking*, p. 83: "What one man loses another gains. The individual changes of fortune may be great, but they have no more economic significance than those which arise from baccarat or betting."

price of the shares is not, of course, an additional loss; it is simply the way in which the loss to society is expressed on the market.

—profit expectations may have fallen because of changing conditions,—

(b) The fall in the profitability of the enterprise may have various causes. If the demand for the product of the firm declines and the reduced selling price of the product diminishes the firm's receipts, then the investment of capital in the particular line of production concerned may turn out to be unjustified; in any case the fall in value of the firm's capital simply represents an adjustment which is expressed by the market in the form of a fall in the price of the shares. The same is true when competing concerns using improved technical methods are able to push down the selling price of the product. The fall in the profits of the firm using the old methods and the reduction in the value of its shares will be more than compensated by the profits of the up-to-date firms and the gain to consumers; thus it cannot be regarded as a loss to society. Profits may be impaired by a rise in the prices of certain necessary means of production; such a price rise may be caused by a competing demand for these factors by other, more promising types of employment. In this case the fall in profits is not to be regarded as a loss to society. If, however, the decline in profitability is not due to an economic process of adaptation or development, but to some "harmful" interference from outside, then we may say that there is a social loss of which the market takes cognizance through the fall in security prices.

—capital consumption may have taken place—

(c) The consumption of a firm's capital may be due to wrong accounting methods, bad tax laws, or bad business practices, which result in the distribution or taxation of "fictitious" profits. To meet these disbursements the firm either uses up part of the necessary replacement funds (e.g., it makes inadequate allowance for depreciation) or it raises new capital (it waters its share capital or contracts new debts). In these cases the fall in share prices obviously signifies a diminution of social capital.

—the interest rate may have risen—

(d) A rise in the rate of interest must, if the productivity of the enterprise is unaltered, cause a reduction in capital values and consequently a reduction in share prices. If the rise in the interest rate is due to a shortage in the supply of capital, it may be considered disadvantageous from the collective standpoint; if it is due to an increased demand for capital arising out of technical progress, it may be regarded as beneficial from the collective point of view. The fall in share prices does not, therefore, permit the inference that a loss to society is involved.

—investment may have been mis directed—

(e) A misdirection of investment, i.e., the use of money capital for the creation of real capital which yields a return below the marginal productivity of capital in general and is therefore unprofitable, is equally "regrettable" from both the private and the social point of view. Since over-speculation on the stock exchange has sometimes been deemed a cause of misdirection of investment, this point demands special attention.

—speculation may have driven stock prices too high

(f) The losses ensuing from the reaction of the securities market which is bound to occur sooner or later if prices have been driven "too high" by speculation, are what people usually refer to when they speak of "stock exchange losses," and are the target of their most vehement criticism. These losses, however, are exclusively shifts in the distribution of wealth and of income: they do not in themselves represent any loss to society. This point is not clear even to many trained economists and probably needs to be explained in greater detail.

Although cases (a) to (d), and others of a similar kind, undoubtedly represent losses to the owners of the securities, they are not losses specifically connected with stock market operations, since the cause is in each case on "the commodity side" and the changes in the share prices are merely a reflection of economic events in the sphere of "real goods." The only relevant cases for our purposes are case (e) which raises the problem of whether security speculation causes misdirection of investment, and (f) which raises the problem of whether security speculation can cause capital to be lost in the actual speculative transactions themselves.

33 For the moment we will postpone discussing the question of misdirection of money capital, in this chapter we will try to show that money capital cannot be lost in the transactions connected with security speculation. This is not difficult. It would be much more difficult to explain why many an economist has gone astray on this point. The argument that the money capital which flowed onto the stock exchange might be "held up" for a certain length of time undoubtedly made sense. The idea that money capital can be lost on the stock exchange seems, however, to make scarcely any sense at all.

Some writers claimed that money capital might be definitely lost in speculative stock exchange transactions—

If we reproduce the arguments used by Professor Reisch, we shall see how a rather obvious error led this well-known author to jump from his statement that the sales-proceeds of shares "do not always flow back into the economic process," to the statement that they "may be used for speculating on the stock exchange and perhaps be lost there."[2] Reisch describes the course of events as the result of which "some part of the capital contributed . . . is in danger of being lost" in the following way[3] "The share prices had reflected unreal (artificially high) values; they were soap bubbles which, when the speculative movement ceased, knocked into each other and burst, leaving only a small foundation of real value. On the speculative market a long series of business transactions are concluded but only the balance flows into the economic process."

---

[2] "Rückwirkungen," p 209

Reisch here takes a more radical position than he did in his first article on the same subject.[4] There he still held the opinion that with the cessation of the stock exchange boom the monetary media which had been used and had of course represented money capital, "become available again for use in other spheres of economic activity. The gains and losses of the speculators are for the most part[5] of no significance to the community as a whole, since though they cause shifts in the relative wealth of the participants in the speculative operations, they do not change the wealth of the community as a whole." In his second article, however, Reisch holds that, in addition to the shift in the distribution of capital ownership, there is a capital loss to society. When stock prices break, so he reasons, "the lower selling price of the speculators is, it is true, balanced by the lower buying price of the buyers, who may be assumed to be outside the speculative market; but the speculators have lost both the gains which they made in the boom and part of their original capital, and in some circumstances they may not even have the wherewithal to pay back the loans they borrowed from the banks, so the banks which have

—and that in addition to a shift in the distribution of capital ownership, capital might be lost to society.

---

[3] *Ibid.*, pp. 207 ff.

[4] "Über das Wesen und die Wirkungen der Börsenkredite," *loc. cit.*, p. 14.

[5] The statement was qualified to allow for the gains of foreigners.

obligations to meet and now cannot obtain the expected equivalent (repayment by the speculators out of the proceeds of security sales) may suffer losses on their assets This should suffice to show," so Reisch concludes, that, in addition to the temporary tie-up of capital and credit, "price changes may occur on the stock exchange which make it questionable whether the capital and credit will flow back even later."[6] This "capital and credit," which must have been represented by circulating media, thus disappears without leaving a trace It has obviously ceased to be tied up after the speculative boom has come to an end, and yet, so it is contended, it has not "returned" to the economic system—it must then have completely disappeared.

Where are the borrowed funds which allegedly failed to flow into the economic process or back to the banks and are no longer tied up by speculators

The reason why the attempt to trace the lost money capital was in vain was that the only persons followed up were the persons who last acquired the shares at a low price, the speculator who sold at a loss, and the creditor who might suffer as a result of this loss But one does not have to be a very good detective in order to reason out that the speculator who sold at a low price lost because he had bought previously at a high price, and to discover, thus, that the money which is being searched for must have gone to the person who sold at a high price, or to use the jargon of the stock exchange, to the person who "got out in time."

The funds have gone, of course, to those who sold at high prices

No reader of this book will, I hope, make the mistake of thinking that nobody or only very few people manage to "get out in time" There are two parties to every transaction, so to everybody who bought at a high price, there must correspond somebody who sold at this high price, and who then stopped speculating and so was the lucky recipient of the money capital which was believed to have been lost.

---

[6] "Rückwirkungen," p 208.

Some arguments about stock exchange losses contain a mixture of ideas which are confused

34 Arguments concerning the losses which society is supposed to suffer as a consequence of stock exchange losses usually consist of a confusion of a number of different ideas. Among these are the following (1) real capital is lost, (2) money capital is lost in the sense that sums of money which would have flowed onto the markets for producers' or consumers' goods fail to do so; (3) money capital is lost in the sense that sums of money which would have been available for productive investment are diverted into the channels of consumption and thus flow onto the consumers' goods market instead of onto the producers' goods market; (4) money capital is lost in the sense that bank credit which was granted for purposes of speculating on the stock exchange cannot be repaid and thus fails to return to the banks. The last quotation from Reisch is evidence that this confusion prevails and no doubt many more examples could be cited

—and self contradictory

Many of these ideas are, however, inconsistent with one another. On the one hand stock exchange losses are accused of having deflationary effects (No 2), while at the same time it is feared that, as a result of stock exchange losses, bank credits will not be repaid to the banks (No. 4). But what does this last effect imply? It means that the economic system remains more amply provided with circulating media than would have been the case if the credits had returned to the banks. Let us assume a case of a very heavy stock exchange loss. Suppose that the banks have created credit in order to provide a number of speculators with funds for buying shares which later turn out to be worthless. The unlucky buyers of these shares have transferred their deposits to lucky sellers of the shares, and the former are therefore

Heavy losses and failures of borrowers may reduce credit deflation—

unable to repay their debts to the banks. In short, the stock exchange losses in this case prevent the "deflationary" effects which the repayment of credits may possibly have; if they are not repaid, the bank deposits remain in existence, whereas if they are repaid they are, temporarily at least, destroyed.

This (slightly frivolous) manner of reasoning serves to show the danger of carrying arguments to extremes and the need for exercising very great caution in analysing economic problems. If we make the argument even more extreme, we obtain quite different results: if the failure of the speculators to repay their loans caused the banks to get into such difficulties that they had to close down, then the immediate result would be the destruction of all their deposits. In this case the failure to repay bank credits would be more deflationary than their repayment.[7]

—if the banks can stand them

Usually the consumption of stock exchange gains is held to reduce the net supply of money capital,—

35. In other cases also it can be shown that, theoretically at least, the exact opposite of the expected and feared results is conceivable. Let us take the case of a reduced capital supply due to the consumption of gains made on the stock exchange (No. 3 in the list of interpretations given above). We have already referred to this case in Section 18. The money capital employed to buy shares comes into the hands of the seller, and if he chooses to look upon part of this money capital as profit and uses it for consumption purposes, then the funds available as money capital are reduced in favour of the funds used for consumption.

At first sight it may seem paradoxical to argue that losses on the stock exchange are capable of resulting in an increase of money capital. The conditions necessary for this to take place are, however, not at all unreal. All that is necessary is that the seller should cover his losses out of his income by restricting his consumption. Let us take the case of an occasional speculator who borrows from his bank to gamble on the stock exchange and buys securities at high prices. The fortunate seller—it may be another speculator or it may be a corporation which has just floated a new issue of shares—receives the full amount of the money capital; the unlucky speculator later sells out at low prices and so receives less from the new buyer of the shares than he himself had paid previously. If he now makes up the deficit on the debt he owes to his bank by reducing his consumption, thus saving a part of his current income, and if the banks reinvest the repaid amounts, the stock exchange loss will have resulted in real capital formation. As the individual concerned would not otherwise have decided to save, we might call it a case of involuntary saving induced by stock exchange losses. (If, however, the "make-up savings" of the losers are not invested, deflation results. Incidentally, this outcome is the more probable owing to the pessimistic attitude which follows heavy losses.)

---

[7] Incidentally, "the losses to banks on brokers' loans have been extremely slight. It might even be true that of all banks' assets, brokers' loans have been the soundest in this depression from the banks' point of view." Rufus S. Tucker, "Government Control of Investment and Speculation," *American Economic Review Supplement*, 1935, Vol. XXV, p. 146.

—likewise money capital may be increased if stock exchange losers reduce consumption and if these savings are invested,—

Again, short-term savings may be involuntarily converted into long-term savings as the result of losses made on the stock exchange. If A is saving for something that he intends to consume at a later date (such as a long journey or the purchase of an automobile) and invests these savings for the time being in shares, he makes his temporary savings available for the creation of real capital. If, after having bought the shares at 100, he fails to find a buyer who will take them at this price, and finally has to sell them to another saver, B, at 80, then 80% of the money capital invested in the real capital will have been provided

—likewise the stock exchange losses of temporary savers reduce dissaving and thus increase the net supply of money capital out of B's savings and 20% out of savings which have been involuntarily sacrificed by A. Although A merely wanted to invest his funds temporarily, he was unable to withdraw them from the productive process, and so the loss he suffered on the stock exchange became long-term savings of the economic system.

Saving because of losses is the counterpart to dissaving because of gains.

Gains and losses affect saving only when changes in wealth are regarded as changes in income.

We have no way of telling how important quantitatively the savings induced by stock exchange losses in practice are. Presumably they are considerably less than the figure for consumption of gains made on the stock exchange. But the principle is significant, that the consumption of savings induced by stock exchange gains does have a counterpart in the formation of savings induced by stock exchange losses. In the one case the speculator looks upon his gains as an addition to his income and *increases* his consumption, and in the other case, the speculator considers his losses as a diminution of income and *reduces* his consumption. In so far, however, as these gains or losses are regarded not as changes in income but as changes in wealth, they represent merely interpersonal shifts in wealth, which may be connected with the valuation of capital but have of themselves nothing to do with the formation or consumption of capital.

CHAPTER VI

THE DEMAND FOR MONEY BY THE STOCK MARKET

36. In this chapter we shall carry out the promise made on several occasions in previous chapters to analyse our problem more closely from the standpoint of monetary theory.

It is held that the stock exchange takes circulating media away from other markets,—

First of all, we must examine the argument that the stock exchange takes money, or circulating media, away from other markets. This argument is advanced even by authors who disagree with the thesis that capital is tied up on the stock exchange. It goes without saying, of course, that those who defend the theory of the tie-up of capital implicitly hold that purchasing power is tied up.

According to Reisch, there is "no doubt whatever"[1] that circulating media are tied up by stock exchange transactions and are released when the stock exchange boom comes to an end.[2] His view has been very neatly put by H. von Beckerath in the following sentences: "The money which is withdrawn from expenditure on the markets for goods and labour, and used as unit of account for business on the stock exchange, leads to a temporary reduction in the demand for goods and for labour. This is to say that the money is held up on its way and for the time being can neither be spent nor lent in the economic process proper."[3]

---

[1] "Über das Wesen und die Wirkungen der Börsenkredite," *loc. cit.*, p. 13.

[2] *Ibid.*, p. 14. "It is only when the stock exchange boom breaks and comes to an end that the circulating media become available again for use in other spheres of economic activity." Reisch did not see that it is precisely when the boom breaks that an "absorption" of circulating media may possibly take place due to the hoarding of sales proceeds by pessimistic sellers of shares.

—and that the demand for goods falls as the demand for securities rises—

The idea, then, is that the demand for other economic goods is reduced in favour of the demand for securities. It is a fairly generally held opinion that by exerting a "demand for circulating media," the securities market comes into competition with other markets. Balogh, for instance, says that "circulating media move from one market to another but are 'held up' on each of them for some short or long interval of time."[4]

He speaks of a "circulationary tie-up"[5] to indicate that circulating media are held up for a particularly long time on a rising stock market. Palyi, famous for his sharp wit and tongue, also finds, in an analysis of American conditions, that "the remainder of the circulating media . . . were used to purchase securities and real estate and were until recently tied up in these uses"[6], he thinks it necessary to add somewhat scornfully in parentheses: "There is a new-found theory which holds that the stock exchange never ties up capital even in the short run, but that the money paid in the morning flows out into the 'economic system' in the evening in order to return to the stock exchange the following morning: no account will be taken of this ingenious theory here." Nor will any account be taken here of this ingenious method of criticizing the caricature of a theory.

In so far as the argument concerns not the provision of capital but the provision of circulating media, Cassel (at whom Palyi's ironic comments were aimed) also inclines to the view that the securities market competes for circulating media with the rest of the economic system. This is apparent from Cassel's remark that when the demand for money by the stock exchange rises the commodity price level can be kept stable only by the creation of new bank money. "We must therefore," he says, "come to the conclusion that, if the Stock Exchange should require an increase in the amount of money in circulation, . . . the increase can and should be made by the creation of new means of payment in proper adjustment to the aim and view; this money will doubtless consist mainly of bank credits on *cheque* account. In this case the amount of money available for industrial and commercial purposes will remain unchanged, and the general level of commodity prices can thus be kept constant. Hence, providing that the bank policy is as rational as has been assumed, the Stock Exchange cannot, in this case either, have a disturbing effect on the amount of money available for industry and trade."[7] If this proposition is correct, then, in the absence of a "rational" banking policy and under the assumption of "other things being unchanged," the demand for money by the stock exchange *will* "have a disturbing effect on the amount of money available for industry and trade."[8] By "disturbing effect" is meant, of course, a fall in the commodity price level or, more generally, a decline in demand on the markets for commodities. Despite the astonishing unanimity among the various authors on

---

[3] Herbert von Beckerath, *Kapitalmarkt und Geldmarkt*, Jena 1916, p. 162.

[4] Thomas Balogh, "Latente Inflation, Währungssystem, Notenbankpolitik und Börsenhausse," *Schmoller's Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reiche*, 53rd year, 1929, p. 591.

[5] *Ibid.*, p. 596.

[6] Melchior Palyi, "Zinsfuss und Zahlungsbilanz in den Vereinigten Staaten," *Magazin der Wirtschaft*, 5th year, No. 45, Berlin 1929, p. 1687.

—and that new bank money should be created as the stock market demands more money this point, the correctness of the assumed causal nexus "rising stock market falling commodity markets" may still be questioned

---

[7] Gostav Cassel, "Does the Stock Exchange Absorb Capital?", *Skandinaviska Kreditaktiebolaget*, 1929, pp. 23 and 24.

[8] Cassel lessens the importance of his statement in the very next sentence where he adds that "moreover it is by no means certain that a rise of prices and greater animation of business on the Stock Exchange would necessarily result in the need of additional means of payment."

37 The conception of a demand for circulating media by particular markets is, in my opinion, not always a very fortunate one The same can be said of Balogh's assumption of the "temporary deflationary effect of the stock exchange boom"[8] If higher prices and an increased turnover on one market tie up more purchasing power, there is, according to such reasoning, a consequent deflationary effect on other markets If we use this form of expression, we have therefore to say that an increase in prices or sales on the fruit market causes a deflation on the fish market

Increased demand on one market is said to mean "deflation" for other markets

If the demand for fish falls off in favour of the demand for fruit, then, if other circumstances remain the same, fruit prices will certainly rise and fish prices fall But it is no explanation of this price shift to say that "an increased demand for circulating media on the fruit market has a deflationary effect on the fish market" It is self-evident that if there is a shift of demand from one commodity to another, and purchasing power is used to buy another commodity in place of the one previously preferred, the price of the one for which the demand increases will rise at the expense of the price of the one for which the demand declines Can it be inferred from this that increased interest in securities must raise the prices of the latter at the expense of the prices of commodities?

Do security prices rise at the expense of commodity prices?

A shift of demand from consumers' goods to securities is "saving"

When someone wishes to acquire securities and obtains the funds necessary for the purchase by refraining from buying things that he previously used to consume, the consequent shift in demand is called "saving" The savings process represents (if no hoarding is involved) a shift in demand from present goods to future goods, and leads by way of the corresponding shifts in prices, to shifts in production. It is usually assumed that a significant price shift takes place not only between consumers' goods and securities but also between consumers' goods and producers' goods. It may seem strange that the price fall in consumers' goods should correspond on the other side to price rises in *two* categories of things at the same time. But there is nothing complicated about this, for the rise in price of *titles* to capital goods may actually involve the rise in the prices of the *capital goods* themselves.

---

[8] *Loc cit*, p 592.

Consumers' goods fall in price: can both securities *and* producers' goods rise correspondingly?

Those who are accustomed to think in terms of a constant velocity of circulation of money will probably not find this explanation easy to accept. According to their view money (under which we include bank deposits on current account) performs a fixed number of transactions in a given period of time, and the price level is determined by the turnover of goods, the quantity of money, and the fixed velocity of circulation. The velocity of circulation is accordingly not conceived of as a dependent variable. Our reference to the shift in demand from consumers' goods to capital goods, however, implied "additional transactions"—the purchase of securities—and those who adhere to the theory of a "constant" velocity of circulation will reject the argument according to which the titles to capital goods (securities) as well as the actual capital goods rise in price.

No—if the transactions velocity of circulation is constant,—

There are other authors, however, who assume not a constant transactions velocity of money but a constant income velocity or circuit velocity. These authors will find no difficulty in accepting the proposition that security prices and producers' goods prices rise together, and that the supposed causal nexus "rise in security prices fall in commodity prices" does not hold.

—yes—if the income velocity of circulation is constant

A priori assumptions about velocity are useless.

But any assumptions of this kind concerning the velocity of circulation of money are quite arbitrary. It is necessary to ask whether the turnover of securities lengthens the circuit round which money has to flow, and if this is the case, whether the transactions velocity may not rise correspondingly. If the first question could be answered in the negative, or the second in the affirmative, then the argument that the commodity price level is independent of the volume of transactions on the securities market would be substantiated.

It is question whether more and security turnover involves an increased demand for money

38. The more plausible argument may seem to be that a rise in security prices and an increase in the turnover of securities must lead to a fall in the so-called price level, simply because the demand for money by the securities market and therefore by the economic system as a whole will have risen. Given an increased demand for money or circulating media[1] and an unchanged supply of money, it would be difficult to imagine anything else than an inevitable fall in prices. The question, however, is whether an increase in turnover of securities, which may be an increase in the number of securities traded or a rise in their prices or both, involves an increased demand for money or circulating media. This question is suggested by the fact that the turnover on the security exchange is effected, for the most part, not with the use of circulating media, but by a system of reciprocal cancellation, or, that is, by a clearing process.

The introduction of the clearing mechanism into our analysis at this point is essential. There is no other sphere of the modern economy besides the stock exchange for which one is justified in arguing that

---

[1] I have discussed the concept of the demand for money elsewhere. See my *Goldkernwährung*, Halberstadt 1925, pp. 163 ff.

The stock exchange clearing may obviate an increase in the demand for money

the clearing mechanism may take care of an increased turnover and avoid an increase in the demand for money. It was made clear by Mises that we are seldom justified in supposing that an increase in the demand for money due to additional business will be automatically "compensated" by an extension of the clearing mechanism.[2] Mises said explicitly: "An extension of the clearing system . . . can never be called forth automatically by an increase in the demand for money."[3] Nevertheless it seems to me that stock exchange business, when there is an increased turnover of securities between members of the stock exchange, is a special case which falls outside of this proposition.

39. The clearing procedure is an almost indispensable part of the technique of operating on the stock exchange. With transactions within a more or less closed circle of people, most of the claims can be settled by balancing with counter-claims without the use of money. Such reciprocal cancellation will be possible for a major part of all claims even when such procedure is confined to the transactions of a single day. The possibility of using this off-setting procedure is greatly extended when the business of several days is brought together in a settlement period. This practice is followed on many leading stock exchanges even where there is a legal prohibition against forward dealings and only cash business is allowed.

The members of a clearing system settle their mutual claims by reciprocal cancellation

The gross value of the securities traded on the stock exchange never has to be paid either in cash or by cheque; only the *differences* have to be paid. Very few people fully realize what an important part is played by this process of off-setting claims against each other and paying the differences. In a book published as long ago as 1905 it was estimated, by one who was well acquainted with the facts,[4] that on the English stock exchange 90% of the obligations were settled by off-setting and only 10% were paid by means of bank cheques.

---

[2] Ludwig von Mises, *The Theory of Money and Credit*, English edition 1935, pp. 302 ff.

[3] *Ibid.*, p. 305.

They use no cash —

—and very little bank money.

A passing reference may be made here to Albert Hahn's treatment of the whole problem of stock exchange credit. In Hahn's view, the main problem is whether or not the stock exchange absorbs money in the narrower sense, i.e., *cash*. "The purchase of securities, the so-called stock exchange turnover, as such takes place almost exclusively *without the use of cash* and therefore . . . exerts scarcely any effect on the credit market."[5] The transaction of stock exchange business without the use of cash is an essential element in Hahn's theory of credit. As he regards the demand for cash as a decisive factor in the determination of the rate of interest,[6] he attributes more importance to the absence of the use of cash in stock exchange operations than most other authors. When we say here that the turnover of securities need not involve any increase in the demand for money or circulating media, we mean not that it requires only bank money and no cash, but that the major part of the stock exchange turnover requires neither the one nor the other. The off-setting mechanism makes it possible very largely to dispense with both cash and bank money.

40. These considerations do not, however, exclude altogether the possibility of a rise in the demand

---

[4] Edgar Jaffé, *Das englische Bankwesen*, Leipzig 1905, p. 95.

[5] Albert Hahn, "Börsenkredite und Industrie," *Frankfurter Zeitung*, 9th May, 1927, No. 341.

[6] See especially Hahn, "Zur Theorie des Geldmarktes," *Archiv für Sozialwissenschaft und Sozialpolitik*, Vol. 51, pp. 288 ff.

for money during a stock exchange boom. Even if only a fraction, let us say 10%, of the turnover on the stock exchange makes use of the monetary circulation (bank deposits of course), then, assuming a constant ratio between the volume of transactions effected by the clearing mechanism and the volume of transactions effected with the use of cheques, an increase in stock exchange turnover would still cause an increase in the absorption of bank money in absolute figures. It is, however, not correct to assume that the proportion of the transactions which can be settled by clearing remains constant. It will be immediately apparent that when the volume of transactions increases, the possibilities of off-setting are augmented not only absolutely but relatively, and that the balance of the differences which have to be paid is not proportional to the level of transactions.

The ratio of cheque payments to total turnover falls as turnover increases.

The notion that a rising stock market requires a larger volume of circulating media than a falling market is, so far as concerns the narrower circle of operations, i.e., those which come under the settlement procedure, not valid, since falling prices are just as conducive to "differences" as rising prices. Since it is only the differences which have to be settled by payment, and differences are of equal frequency on a rising market as on a falling one, the *a priori* assumption that in a boom an increased circulation of money is needed for the purpose of "in-and-out trading" of securities on the stock exchange is unfounded.

Rising prices are no more cause for increasing clearing differences than are falling prices —

The stock exchange turnover may increase by "quantity" or by "value," i.e., more securities may be traded at unchanged prices or the same number of securities may be traded at higher prices, and there are of course any number of possible combinations of these factors. The proposition that there is no logical necessity for the differences for settlement to rise with

—and a higher turnover need not be cause for higher clearing differences either.

an increase in the turnover figures, holds equally well for a "quantity" or a "value" increase in turnover. If a group of speculators undertake a large number of transactions among themselves, the balance which remains to be paid after off-setting need not be greater than it would be if the turnover had been smaller.

Whether balances to be settled by cheque rise with an increase in turnover,—

An increase in turnover will tend to bring with it an increase in differences to be settled by cheque payments only if the increased business is not evenly distributed among the various clearing-house members, or, more correctly, if the unevenness in the distribution of business among brokers is increased by the increased turnover. The probability that this will happen in the course of a stock market boom is fairly high for the following reasons: (1) brokers are often specialized as to the type of customers they serve, and an increase in trading may find market opinions divided as between these types of customers; (2) different brokers may have different opinions as to expected market developments, and may advise their customers accordingly, so that selling and buying orders are unevenly distributed over the brokers.

depends on the distribution of selling and buying orders over the brokers.

The sales must, of course, equal the purchases. If one half of the brokers served the customers who did the selling, and the other half of the brokers served the customers who did the buying, then any increase in turnover would involve an equal absolute increase in payments for settlement. If, however, each broker served both selling and buying customers, the absolute increase in cheque payments would fall short of the absolute increase in turnover. If the increase in turnover were such that the distribution of sellers and buyers among brokers remained unchanged, total turnover and payments for settlement would rise in the same proportion. If the increase in turnover were such as to make for a more even distribution of buying and selling orders among the various brokers, the amount of cheque payments would fall relatively, and indeed, might fall absolutely. All these developments are possible, an inspection of clearing-house statistics[7] shows that in the past the amount of payments for settlement usually rose absolutely but fell relatively with an increase in turnover.

Check payments might conceivably fall with increased business,—

—actually they rose for the most part

The absolute increase in cheque payments which may thus accompany rising stock market transactions can be taken care of out of unchanged totals of brokers' cash balances. In other words, there is no logical necessity for a rise in clearing balances requiring settlement to cause a rise in the bank balances held by brokers at the close of the day. There is almost no statistical evidence available which might show whether, in point of fact, brokers carried larger balances when transactions were larger. The reason why they easily could do more business without higher bank balances will become obvious from an analysis of the mechanism of stock exchange loans.[8]

Increased clearing balances however, can be settled without increased bank balances

41. The settlement procedure is open only to actual members of the stock exchange, i.e., the jobbers (dealers) and brokers. Securities are traded, however, not only between members of the stock exchange but also between brokers and the public. It would be a serious error to confine our investigation of the problems connected with the stock exchange to the activities of the professional dealers, since the activity of

---

[7] See Appendix C, Table XIV.

[8] See Chapter VII and Appendix B. Cf. on this point the lucid discussion by Charles O. Hardy, *Credit Policies of the Federal Reserve System*, Brookings Institute, Washington, D.C. 1932. On p. 167 he writes: "There is no theoretical limit to the volume of business which can be supported by a given volume of reserves, if substantially everything is liquidated each day before the banks' statements are made up. As service balances required of brokers do not vary in proportion to their loans, as is customary with commercial loans, there is no theoretical necessity for brokers to increase their average balances as their turnover goes up."

these dealers is directed by the willingness to buy and sell on the part of the public There is an old stock exchange joke which says that no inn can keep going in the long run if the bar-tenders have nothing else to do except play billiards with each other It can exist only if there are customers to serve. In the same way the members of the stock exchange live not from "playing with each other," but from the operations which they undertake on behalf of the public A rise on the securities market cannot last any length of time unless the public is both willing and able to make increased purchases But all that was said about the clearing mechanism dispensing with the use of money does not apply to transactions between the *public* and the stock exchange, and we must therefore continue our investigation in this direction

No special clearing exists for payments between brokers and the public,—

The fact that "inside business" on the stock exchange, as I have tried to show, need not have the effect of tying up more circulating media in times of boom does not mean that "outside business" carried on between brokers and the public may not have this effect

—hence, money might be tied up for these payments

42 The attempt is sometimes made to dispose of the argument that the stock exchange or the speculating public cause a tie-up of circulating media by comparing the process to a "sieve with wide holes" The securities market is supposed to be analogous to a sieve because the sellers of securities obtain the money just as soon as it is invested by the buyers, and the circulating media to a certain extent merely "run through"; they remain at the disposal of the whole market without any "tie-up" or "absorption." But this formula could be applied just as well to any other market with the result that money would never be "held up" or "absorbed" anywhere The seller of a commodity also obtains the money spent by the buyer, and it

The "sieve" analogy explains little —

—for every market the seller gets what the buyer pays would be impossible to explain any price shift if we were to argue that the seller might spend the money he received for his commodity to purchase the goods which the person who bought from him had to forgo.

Similar views are often to be found elsewhere, as for example, among those who advocate a policy of subsidizing certain groups of producers for the purpose of giving them more purchasing power to spend on other products. It should be obvious to anyone after a little thought that, with a given speed of transactions and a given quantity of monetary media, an increased total expenditure on one product can take place only at the expense of a diminished total expenditure on another product.

It should be noted that this proposition relates not merely to increased prices but to increased "outlays," i.e., the product of price times quantity. Emphasis might also be laid on the word "product" in another sense, for it might be possible for money to circulate at a different speed in respect of payments for products than in respect of other payments. The theory of the so-called "cession payments," as it was, for example, developed by Wieser,[8] seems implicitly to assume that payments which do not relate to purchases of goods take place, so to speak, "in no time," or, more precisely, that they edge their way in between the pay-

The theory of "cession payments" —

---

[8] Friedrich Wieser, "Theorie der gesellschaftlichen Wirtschaft," *Grundriss der Sozialökonomik*, second edition, Tubingen 1924, p. 190. "Cession payments" are "payments which are made for various reasons outside the market of real goods." In the English translation published under the title *Social Economics*, New York 1927, the definition reads as follows: "We shall call payments by assignment all those which are made under any title outside the market of natural values" (p. 252). We shall substitute for Wieser's term "cession payments" or, as it was translated, "payments by assignment," the term "transfer payments," although in the literature this latter term has only been used in connexion with international payments. There is, however, no reason why the term "transfer payment," which so conveniently describes the transfer of purchasing power due to "one-sided" payments, should not be used in the theory of domestic payments.

ments for purchases of goods without causing any postponement of the latter.

—or "transfer payments"—

When such a "cession payment" or "transfer payment" takes place, the payer makes over his buying power to the payee without, according to Wieser's theory, necessarily causing any changes in the direction of production. As examples of transfer payments, Wieser referred to loans, investments, insurance premiums, gifts, charity, tax payments. These payments are, in themselves, not supposed to have any effect on the disposition over goods and on the production of goods; it is only as the recipients come on to the market for goods and services that they can, through their purchases and the respective "price payments," cause changes in the direction of production in so far as they use their buying power in a different manner from that in which those who previously held command over the funds had used them. If, for example, a borrower, or a recipient of charity, buys the same things as the lender, or the benefactor, would have bought, then in a stationary economy the transfer payments would have caused no change. According to Wieser's theory, the transfer payment itself may be regarded as directly indifferent from the standpoint of the price system.[18] It is only the subsequent price payments by the recipient that can lead to price shifts. Thus the demand of the borrower will, for instance, raise the prices of certain means of production while the decline in the demand of the lender lowers the prices of certain consumers' goods, or the demand of the recipient of relief will raise the prices of certain consumers' goods while the decline in the demand of the benefactor or the taxpayer causes the prices of certain producers' goods to fall.

—holds that there are certain payments which do not influence prices.

---

[18] "In a static economy, the equation of supply and demand is by no means interfered with by the influence of assignment payments or of derived income," Friedrich Wieser, *op. cit.*, English edition, p. 265.

Wieser did not explain how the mechanism of payment differs in the case of transfer payments from the case of price payments, or how the time sequence of payments should make the direct effect of transfer payments neutral towards the price system. He was obviously concerned exclusively with the system of mutual interdependence of commodity prices, and he made certain simple assumptions which avoided complicated questions connected with the circuit flow of money. The assumptions he made are essentially the same as those which are implicit in the concept of "neutral money." Under the assumption of neutral money, disturbances of the circuit flow of money cannot occur, or must somehow be compensated.

Apparently, "neutral money" is tacitly assumed

43. Wieser should not, however, have stopped his analysis where he did. Given neutral money, not only the transfer payments which he enumerated would be indifferent from the standpoint of the price system, but certain price payments would be equally "indifferent." Payments for goods which cannot be produced or reproduced or of which the production cannot be increased, would have to be regarded as "indifferent" in the described sense—indifferent because the prices paid for these goods cannot exert any influence on their production or on the disposition of the productive factors.[1] Let us assume a stationary state and suppose that a certain individual A possesses a highly prized picture by a celebrated painter. The picture comes under the category of non-reproducible goods. Now if B wants to acquire this picture and obtains it at a high price, then B's payment to A need not result in any shift in the interdependent price structure of

Certain "price payments" may have the character of "transfer payments"—

---

[1] J. G. Koopmans, in discussing my remarks on this subject, proposes to replace the above formulation by the criterion of whether the good is "without any cost relationship to other goods or not." See J. G. Koopmans "Zum Problem des Neutralen Geldes," in *Beiträge zur Geldtheorie*, edited by F. A. Hayek, Vienna 1933, p. 339.

the economy, providing A uses the purchasing power he acquires in the same way as B would have used it had he not bought the picture. Here we have an example of a price payment which is—all this still under the neutral money supposition—of the same "indifferent" character as a transfer payment. The high price fetched by the picture would leave all other prices unaffected. The same thing might be true in the case of any good which is the object of exchange, so long as, whether for technical, legal, or economic reasons, its production cannot be increased despite the rise in its price. The prices of such goods may rise without necessitating any changes in other prices.[2]

—if they are for goods whose production cannot be affected

Payments for securities are undoubtedly of the nature of transfer payments

The conclusions of the previous paragraphs might also be relevant to the case of a rise in security prices. The payment of the price of the securities is in the nature of a transfer payment. The purchase of securities is neither more nor less of a transfer payment than every loan; it is a transfer payment acknowledged by a special kind of certificate or receipt. And if the seller of the securities uses the purchasing power he received in order to buy the same goods as those of which the buyer of the securities relinquished the purchase, and if the purchase takes place at the same time as it would have been made by the buyer of the securities, then the rise in security prices will leave commodity prices unchanged. But if the seller of the securities buys producers' goods, as may happen especially in the case of new issues, then the prices of these goods will rise at the expense of those goods which the buyer of the securities had to give up. The so-called general commodity price level, exclusive of securities, would not, however, be affected: security prices could rise without there being any consequent fall in other prices in general.

---

[2] In the German edition of this book I tried to show in a footnote that changes in monopoly prices under conditions of inelastic demand may be interpreted as cases of the same kind. An increase in monopoly rent might, I thought, be used for the purchase of the same article as the consumers of the monopoly product had to relinquish. Koopmans expressed the opinion (*op. cit.*, pp. 337 ff.) that I had stopped half-way, as in fact every payment might be indifferent with respect to the economic process. I myself think now, however, that I went too far since my object was not to investigate how things would be if money were neutral, but to ask in what cases this neutrality would be possible or would actually prevail.

The theory of transfer payments is of no value unless it proves absence of delays.

44. This theory of transfer payments is, however, of no value in explaining reality unless it can be plausibly shown that the recipient makes use of his purchasing power without delay. "Without delay" means: at the same time that it would have been used if the transfer payment had not been made. Suppose, under conditions of a stationary circuit flow of money, N had to make a price payment to M, the person next to him in the circuit; instead of doing this he made first a transfer payment to N′ which enabled the latter to take over the goods from M, if a time interval, however small, elapsed between the receipt of the transfer payment and the use of these funds for a price payment, then a postponement of the demand for the goods and a consequent tendency to a price fall would be unavoidable.

When transfer payments delay the purchase of products, product prices tend to fall.

It may well be that transfer payments are so fast that purchases are not delayed.

The assumption of a loss of time resulting from the transfer payment can be avoided only under one condition. If N makes the transfer payment to N′ earlier than he would have made the price payment to M, then the payment by N′ can reach M still without delay. It is possible to think of a number of institutions, or habits, which make it probable that many transfer payments do take place more quickly after the receipt of income than would expenditures on the market for goods. The income-recipient who hands over purchasing power to his wife or his housekeeper does it in such a way that the purchases take place no later than if he had had to go to the market himself. The debtor who intends to devote part of his income to debt payment will usually make the necessary transfer immediately after he receives his income, whereas he will make his purchases of commodities only gradually over the income-period.

Various institutions—

Can we say the same of loans or of the acquisition of shares by savers? In a schematic picture of the circuit flow of money, we might assume quite arbitrarily that incomes were paid out regularly on Thursday; that the loan market functioned on Friday; and the commodity market on Saturday of each week. In this case transfer payments, however large, would not delay the purchase of goods; or, to use another terminology, the demand for money by the economic system as a whole would be independent of the turnover on the credit market; or, to use still another formulation, the increase in the "money work to be done," i.e., the increase in money transactions, would be "automatically" compensated by a rise in the transactions velocity.[3]

—saving habits—

This institution of the Friday loan market and the Saturday commodity market is far from existing in reality. Nevertheless it is still possible that in reality something does take place which allows the results of this imaginary institution to be approximately achieved. Budgeting in advance by the majority of income-recipients, for example, would tend to have the effect indicated. If the individual budgets to save a fixed proportion of his income, and decides to use his savings to purchase securities, it is very probable that he will do this right at the beginning of the income-period, so that his average cash balance will be lower than it would have been if he had spent all his income on consumption. Thus, if he buys the securities from someone who wants to use the proceeds in the commodity market, it is not unreal to assume that they will be used there no later than would have been the case if no transfer payment had intervened

---

[3] Cf. the recent formulation in Arthur W. Marget, *The Theory of Prices*, Vol. I, 1938, e.g., pp. 584 ff.

—may help to avoid delays arising from transfers of money capital

A fairly plausible case can thus be made out for the hypothesis of neutral transfer payments But the strange thing is that very few authors have bothered their heads about the loss of time caused by transfer payments when they have been dealing with ordinary loans, relief payments, tax payments and the like [4] It has been thought necessary to emphasize the lapse of time only in the case of transfer payments connected with the securities market In so far as it is simply a matter of the flow of purchasing power through the stock exchange, i e., the transfer of purchasing power from the purchaser of the shares to a seller who intends to use it to purchase goods or services, it is difficult to see why the lapse of time should have been thought a greater evil here than in the case of ordinary loan transactions and other transfer payments As the argument usually runs in terms of whether stock exchange credit has harmful consequences which other kinds of credit have not, it is unnecessary to try to prove that stock exchange credit finds its way onto the commodity market in "no time", the question is only whether the purchasing power transferred is likely to take "more time" before it becomes demand for goods and services in the case of stock exchange credit than in the case of other kinds of credit

Not whether funds flow through the stock exchange in "no time" but whether it takes "more time" than through other channels, is the question

---

[4] Hans Neisser *Der Tauschwert des Geldes*, Jena 1928, saw this problem (See p. 9 "It is indeed formally possible for the process of making loans and granting credit to take a certain amount of time thus if the social product were to remain the same but a relative extension of lending were to take place this would require money, increase the volume of transactions and give rise to a tendency to a fall in prices") But he did not think that this was of much practical importance

45. The reasons which may permit the neglect of the lapse of time associated with transfer payments and certain analogous cases of price payments, particularly security transactions, are not sufficient to allow us to disregard the lapse of time which takes place when there is a continual repetition of the same event. If the recipient of the transfer payment again transfers the purchasing power to someone else, and the next recipient does the same thing so that no demand for products is exercised during this time, then the interval which elapses before such a demand arises cannot be disregarded.

The delay caused by a chain of transfer payments must not be neglected,—

A case where a long chain of transfer payments may occur is perhaps to be found in connexion with the conversion and funding of credits: loans that have just been raised may be used to pay back old loans, and the sums repaid may be re-lent in order to be used again for paying back other loans and so on. However, no authors have regarded this problem as an important one. Other cases, too, are conceivable where a series of three or four successive transfers may take place before the purchasing power is employed on the market for goods and services.[5] It has already been noticed that successions of purchases and sales can take place on the securities market, and that there is consequently a strong possibility that purchasing power may change hands many times without being used on other markets.

—and repeated security transactions might be a case in point.

We have already emphasized, perhaps more than enough, that the purchase and sale of securities within the actual stock exchange, i.e., between the members of the stock exchange, by reason of its clearing organization requires hardly any circulating media and that an increase in turnover scarcely requires *more* circulating media. Here, however, we are concerned solely with payments between brokers and the public which usually take place through ordinary circulating media, mostly bank deposits. If purchaser A gives a cheque to his broker and seller B asks for a cheque from his broker, if B then hands his cheque back to his broker for the purpose of buying other securities and C the seller asks for a cheque for his sales proceeds, and this process goes on repeating itself, then for the time that it lasts cheque accounts will be tied up in security speculation.

---

[5] E.g., there are two transfer operations in the case of taxation for providing government relief, and four transfers in the case of debt repayment, new lending, distribution of dividends, further lending.

If speculators who sell ask for cheques from their brokers and send cheques for their new purchases, bank deposits are tied up

The picture just drawn does not, however, represent the situation on all stock exchanges. In the United States, for example, it is by no means usual for the seller of securities who is contemplating buying other securities to request his broker to give him a cheque for the amount due. It is more usual for him to leave it on account with his broker until his new order to buy has been given and executed. The broker, however, will not maintain idle bank deposits to the amount corresponding to the total of all the deposits his customers keep with him. He is more likely to use his bank deposits, once they exceed a certain minimum, to cover his debts, or if he has no debts, to grant loans. Customers who keep on selling, buying, selling, buying, do not therefore use ordinary circulating media such as bank deposits for these transactions: their accounts with brokers perform the function of purchasing power between these customers. There is thus a separate money, so to speak, in the form of brokerage deposits, which serves to effect security transactions between the regular customers of the brokers.[6] The buyer of shares draws on his broker-

But in the United States speculators customarily keep their deposits with brokers, if they plan further trading —

—and the brokers' bank deposits may be only a fraction of the customers' deposits with them

Hence the customers' "brokerage deposits" are a peculiar type of money—

---

[6] The brokerage deposits, which are the accounts that customers keep with their brokers, must not be confused with the brokers' deposits which are the accounts which the brokers keep with their banks. The fact that brokers are not allowed to accept demand deposits, i.e., they are not allowed to act as deposit bankers, does not alter the fact that deposits of customers with their brokers exist and that these deposits circulate, although only in security transactions, of course.

age deposit and the seller acquires a brokerage deposit, which, the next time he buys securities, is transferred to a third speculator and then to a fourth and so on. In short, speculation by the public can also proceed without the use of bank deposits, or, that is, without the use of ordinary circulating media, so long as the seller does not require his broker to pay out what is due to him. (See Appendix B for a description of the circulation of brokerage deposits.)

—for the speculating public.

On some exchanges, however, it is usual for the broker to send a cheque to the seller of the securities "automatically," or, that is, without being especially requested to do so. And even on exchanges where this is not the general rule, there are customers who request payment by cheque. If customers after having taken their funds away from their brokers continue to speculate, a chain of transfer payments is carried on with bank deposits. Such a chain also occurs when customers withdraw their funds from their broker in order to lend them (not on the same day) to other speculators, who perhaps again buy shares from people who demand immediate payment by cheque and do not decide until later either to speculate further or to lend their funds at call. In short, when sellers keep their sales proceeds, not with their brokers but on account with their bank, until they decide to use them on the stock exchange again, there is undeniably a tie-up of the deposits in question.[7]

Where, however, speculators switch back and forth from brokerage deposits to bank deposits, bank deposits are tied up.

46. All that remains to ask is: when are these chains of transfer payments between the bank accounts of security speculators likely to arise? From all that

---

[7] Cf. also John H. Williams, "The Monetary Doctrines of J. M. Keynes," *The Quarterly Journal of Economics*, 1931, Vol. 45, p. 575: "I recognize, too, that to the extent that speculation was by traders, through brokerage accounts . . . the point about the economy of the whole process has force. But this . . . neglects . . . the fact that securities were bought by people all over the country through their bank accounts."

we have seen up to now it would appear that in order that this shall happen it is necessary for the "speculative fever" to infect a very wide circle; this means, in the case of most countries, that it must extend to circles which are not regular customers of the brokers and which usually have little or nothing to do with security transactions. Moreover, the chain of transfer payments comes to an end as soon as a seller uses the sale proceeds to purchase goods or services (which will most often occur if the seller is a firm issuing new securities). For a continued chain of stock transactions it would therefore be necessary that the incentive to new issuing activity, or, more specifically, the incentive to real investment be smaller than the incentive to security speculation.

This condition arises only when the speculative fever affects the general public,—

—and when real investment is much less attractive than stock speculation

Let us therefore consider the possible causes of security speculation by the public and ask whether the conditions formulated above are likely to prevail. The motive for security speculation by the public lies in the expectation of further increases in security prices. These expectations may be based in the first place on prospects of increased dividend payments by the corporations. If the prospective profits of the enterprises actually do rise, there will be a corresponding desire to expand and an increased demand for capital on the part of these enterprises. This demand for capital for industrial activity will induce firms to sell out their holdings of securities (securities held in portfolio) and to float new issues: thus the same motive which invites purchases of securities will also lead the sellers to employ the sales proceeds in production.

Good prospects for business profits invite both demand for stocks and real investment.

It may happen, however, that the expectations of a rise in the prices of securities have no such material justification. There may be a feeling of optimism which calls forth a supply of liquid cash balances (dishoarding) sufficient to turn it into an effective demand for securities. This is especially likely to occur if the movement is supported by additional bank credit. We shall return to this point presently. Here we want to inquire what happens in the case where there is no increase in the supply of money capital and no rise in profits of the enterprises to form the basis for the sudden development of boom sentiment. The most probable result in this case is a quick recession of security prices. For higher stock prices will invite a new supply of securities, and the corporations, which want to take advantage of the higher prices in order to draw funds from the stock exchange and use them for real investment, will find that there are no additional funds to be had. Chains of speculative security transactions are, therefore, hardly likely to develop in these circumstances.

No boom can develop unless optimism is supported by increased supply of money capital

It is impossible for the profits of all or of the majority of enterprises to rise without an increase in the effective monetary circulation (through the creation of new credit or dishoarding) unless industry is presented with a general fall in wages or a reduction of taxation. Under these circumstances the improved profit prospects will, it is true, cause security prices to rise, but this rise will take place almost at one stroke and not by way of a gradual upward movement in the stock market. Chains of speculation can develop only as the result of continual price rises over a longer period. A single rise in the level of profits cannot produce a continuous rise in capital values and cannot, therefore, lead to extensive speculation by the public.

Continual rise in stock prices cannot be explained by better business

47. A factor which is capable of evoking expectations of a rise in security prices is a reduction of the interest rate. In so far as this reduction occurs merely as the result of an increased supply of intended

new savings,[8] the likelihood of a long-lasting upward movement of the market is rather meagre. It is easy to see that if dividend prospects are unchanged and the rate of interest is reduced, security prices will rise,[9] and it is more than probable that a sufficient amount of security sales from "final sellers" (unloading by temporary holders and new issues) will be quickly forthcoming comparatively small offerings of securities will suffice to absorb the increased supply of new savings and to drain them off to other markets For no matter how the supply of money capital derived from current new savings may fluctuate, it is scarcely conceivable that the total supply of money capital can ever rise to unexpected dimensions as the result of an increased flow from this source. If the public devotes only its new savings to the securities market, and the new demand at once causes some groups of securities to become "firmer," it will not be necessary for the purchasing power of the public to be withdrawn from the commodity market until it has "run through" all the securities quoted on the exchange and has adjusted the prices of securities, one after the other, to the new market conditions. In reality this task is performed by quickly reacting professional

Continual rise cannot be caused by increased voluntary saving either.

A new supply of securities would quickly stop soaring stock prices,—

—if the demand came only from intended new savings speculators who require no money to carry out their transactions. The public's money is not "held up" because the professional speculators, who discount the public demand, will already have raised the level of security prices and thus called into being a new supply of securities from the producers.

---

[8] The supposition that a more plentiful supply of intended current new savings will lead to a reduction in the interest rate is, of course, very old fashioned since Keynes has decided to treat the interest rate either as an independent variable or as being determined solely by the quantity of money and liquidity preferences (*General Theory of Employment, Interest, and Money*, pp 245 ff and pp. 167 ff) Keynes' critics have, however, shown that the "classical" assumption about the connexion between saving and the interest rate still has something to be said for it (See, e.g., A. C. Pigou, "Mr J. M. Keynes' General Theory of Employment, Interest, and Money", *Economica*, 1936, pp 115 ff)

[9] Changes in money market rates which are considered to be only temporary will clearly not cause "adjustments" of security values Richard N Owens and Charles O. Hardy (*Interest Rates and Stock Speculation, A Study of the Influence of the Money Market on the Stock Market*, Publication of the Brookings Institute of Economics, New York 1925) apply an unnecessarily elaborate scientific apparatus to verify this simple and obvious fact statistically

The supply of intended savings and amortization allowances is fairly inelastic

If it were not for the elasticity of bank credit, which has often been regarded as such a good thing, a boom in security values could not last for any length of time.[10] In the absence of inflationary credit the funds available for lending to the public for security purchases would soon be exhausted, since even a large supply is ultimately limited. The supply of funds derived solely from current new savings and current amortization allowances is fairly inelastic, and optimism about the development of security prices would promptly lead to a "tightening" on the credit market, and the cessation of speculation "for the rise." There would thus be no chains of speculative transactions and the limited amount of credit available would pass into production without delay.

A lasting boom can result only from inflationary credit supply

Only if the credit organization of the banks (by means of inflationary credit) or large-scale dishoarding by the public make the supply of loanable funds highly elastic, can a lasting boom develop. The demand for credit by optimistic speculators rises as the borrowed funds are used for stock purchases from "final sellers." The reason why this increased demand does not lead quickly to the exhaustion of the supply is that the supply of credit is not restricted to the scarce supply of current new savings. If the demand rises the banks are able to grant additional credit on unchanged or practically unchanged terms. The pro-

---

[10] The so-called "brokers' loans on the account of others" will be discussed in the next chapter. It may be mentioned here that the ample funds of the "others" frequently are the result of credit expansion.

Since credit inflation is a condition for chains of speculative transactions it is only inflationary funds which are in danger of becoming tied up

fessional speculators cannot anticipate the entire development at one stroke because they do not know to what limits the credit expansion will go. The upward movement of security values which is kept going by this means is capable of producing a chain of speculative operations, and it is then possible for the money derived from credit expansion to remain "tied up" for a time in a succession of transfer payments connected with stock exchange transactions.

It does not, of course, depend on the origin of each particular dollar coming onto the stock exchange whether it will be drained off to other markets immediately or only after some delay. This is not what was meant when we said that it is the money derived from credit expansion that is likely to be tied up in stock exchange transactions. It is of course possible for funds which come out of real savings to "get stuck" in the way described, but this is only probable if a particularly abundant credit supply has been produced by the emergence of inflationary credit. It is not the origin, but the excessive dimensions of the supply of credit, which is the decisive factor. The supply can, however, reach these dimensions only if it comes from an inflationary source.

The possibility of absorption of funds by stock transactions—

48. We have shown that it is possible for bank deposits to be temporarily tied up in stock exchange operations and so not to flow immediately into "productive channels." Does this lend support to the view that there can be an "absorption of the country's credit in speculative security operations to an alarming extent"[1], or the view that stock exchange operations rob industry and "legitimate" business of the use of the available supply of capital?

These views have not been substantiated so far.

---

[1] Federal Reserve Board, *Annual Report* for 1929, p. 1.

—as limited to smallest dimensions,— We have given sufficient proof that only a very small fraction of all stock exchange transactions are capable of tying up bank money. Moreover, it should be remembered that:

—and limited to inflationary credit,

(1) our conclusions related to inflationary credit or rather to periods when inflationary credit was being created,

—but not limited to stock exchange credit.

(2) the money which flows onto the stock exchange and is tied up in a series of operations, need not come directly from stock exchange credits (brokers' loans) but that any "inflationary" credit, no matter in what form it was created, may find its way onto the stock exchange,

(3) an important distinction has to be drawn between a delay in the productive employment of funds derived from intended savings and a delay in the productive employment of funds from inflationary sources.

The absorption may be considered a temporary "localization of the inflation,"—

The fact that stock exchange speculation by the public may tie up inflationary credit will probably not be judged an evil once the effects of this inflationary credit on production are realized. If inflationary funds were held up for the time being on the stock exchange, there would be a temporary "localization of the inflation."[2] The vague notion which many people have had of funds being "held up"[3] may in this case be not so far from the truth. Here we have attempted to make this vague notion more precise by describing the conditions necessary for a long series of transfer payments. The results of our analysis prevent us from making the mistake of speaking generally about the "deflationary effect of the stock exchange boom" where, at best, the effect is one of temporarily absorbing part of the inflation.

---

[2] Thomas Balogh, "Latente Inflation," *loc. cit.*, p. 566.

[3] This idea is not recent: it was put on paper as early as 200 years ago by the economist Richard Cantillon (who died in 1734) in his *Essai sur la nature du commerce en général* (London, *recte* Paris 1755). In the last sentence he says: "Les billets de banque extraordinaires, qu'on fabrique et qu'on répand dans ces occasions, ne dérangent pas la circulation, *parce qu'étant employés à l'achat et vente de fonds capitaux* ils ne servent pas à la dépense des familles . . ." and even Cantillon concludes the sentence by saying that the effects of such dangerous operations do not become apparent until a later date.

The newly created funds may make their way in the first instance to that section of the public which is interested in the securities market; the boom sentiment of these people raises the prices of the shares of various classes of enterprises and some sellers may hold their funds on bank account for intervals between transactions. As various sellers "get out of the market" and as new issues are floated, the inflationary credit is drained off into production.[4]

—before the funds are drained off into production

The phenomenon of the temporary tie-up of inflationary credit in security speculation would be very useful in assisting the monetary authorities to frame their credit policy. If the volume of credit of all the banks and the movements in the securities market were carefully watched, it might be possible to put an early brake on the boom and thus succeed in avoiding a more violent reaction. A restrictive credit policy applied at the right moment would check the progressive watering of the capital supply through the expansiveness of bank lending. A measure of bank policy of this kind should not, however, be associated with any such foolish slogans as "Down with stock exchange credit and let industry have it!" because the very purpose of the measure would be

If there were absorption to any significant extent, it might help in the control of credit—

---

[4] See W. M. Persons, "A Non-Technical Explanation of the Index of General Business Conditions," *Review of Economic Statistics*, 1920, Vol. II, p. 47. Persons locates the "drain of funds from security markets into business" at the transition from the upswing to the boom. The barometer of the three markets shows a time lag between the rise in the curve of the speculative market and the rise in the curve of the commodity market. However, I do not believe that the tie-up of the inflationary credit in stock exchange speculation is much of a reason for this lag.

—not through qualitative discrimination but through quantitative restriction

to stop the expansion before the credits had given an excessive stimulus to industrial activity. If the stock exchange really had the power to absorb inflationary credit for good and for all, it would probably be a very healthy arrangement from the point of view of industrial production, because the misdirection of investment which is caused by the "artificially" easy facilities for procuring capital would be avoided. In reality, however, stock exchange transactions tie up only a relatively trivial amount of the inflationary credit and do so merely for a short time. The stock exchange credits begin to "work" only too quickly on production. If the authorities are aiming at a rational banking policy, they should not complain of the stock exchange withdrawing money from industry, but should take advantage of a temporary localization of the inflation to try as far as possible to neutralize the overflow of the latent part of the inflation into production by putting a brake on the credit expansion.[5]

---

[5] Professor Howard S. Ellis has criticized my views on the ground that the inflation-absorbing effect of the speculation takes place not at the beginning but at the end of the expansion. In his book *German Monetary Theory, 1905-1933*, he says (p. 386): "If the factors augmenting purchasing power tie-up operated early enough . . . the boom would not occur. What actually happens is that the withdrawal (i.e., the tie-up of funds) serves as a check at precisely the wrong time, *after* the artificially induced industrial boom has passed its zenith and approached a limit."

I agree entirely with Professor Ellis that the inflation absorbing effect does not begin to act early enough. The main point, however, is that the "absorption" affects only a trivial fraction of the newly created credits. In practice, therefore, there can be no question of stock exchange speculation depriving industry of all or even of a considerable part of the funds created by inflation. The problem might be put in this way. Assume that a credit expansion is taking place at the rate of 100 units of monetary media per unit of time. A large part of this new money passes through the stock exchange. In response to the rise in share prices wide circles of the public begin after some time to get interested in stock speculation. The resulting transactions "tie up" some money, let us say 5 or 10 units, so that in each unit of time, instead of 100 units, only 95 or 90 units of the newly created money flow to the industrial markets. Thus, given a constant rate of credit

CHAPTER VII

THE DEMAND FOR LOANS BY THE STOCK MARKET

49. There are a considerable number of authors who regard the volume of loans to stockbrokers as a measure of the funds which have flowed onto the stock exchange or even as a measure of the funds that have been absorbed by the stock exchange. In actual fact it is neither of these things.

The total volume of lending to brokers within any period may be substantially smaller than the amount of money capital which has flowed onto the stock exchange, or it may be greater. There is no definite relation between these items, nor even any necessity for them to move in the same direction. Why this is so will be explained in the course of this chapter.

The volume of brokers' loans tells us nothing about the amount of funds that has flowed onto the stock exchange,—

The analysis given in the previous chapters should have made it sufficiently clear that the volume of loans to brokers has nothing to do with any tie-up of purchasing power in stock exchange transactions. The subsequent sections will complete that exposition.

—and still less about a tie up of funds

---

expansion, there would be a somewhat smaller rate of flow to industry. Those who are of the opinion that the rate of growth of industrial expansion should never decline even if it could be kept up only by credit expansion will, in this case, advocate still easier credit conditions. Those who are of the opinion that the credit expansion should in any case be checked (and the sooner the better), will not be worried by the (small) possibility that part of the inflation will be absorbed by speculation in the way described.

Incidentally, Professor Ellis sees the causes of possible "absorption" less in stock exchange transactions than in induced hoarding activity. We shall deal with this in Chapter VIII.

Brokers borrow when they have to pay out more than they receive.

First of all it is necessary to explain the essential facts relating to the mechanism of brokers' loans.[1] When does a broker borrow? He borrows, like any other person, when he expects his receipts from ordinary sources to be less than his outgoings. His receipts, apart from new borrowing, consist mainly in the proceeds of sales to other brokers and in receipts from his customers (or for their account). His outgoings, apart from loan repayments, consist mainly in payments to other brokers for purchases from them and payments to customers.

Payments between brokers cancel out for all brokers taken together

The cash ledger of any individual broker will thus show on the receipts side, receipts from brokers and receipts from (or on account of) customers, and on the expenditure side, payments to brokers and payments to customers. If, however, we were to take all the brokers as a group, then the payments between brokers would of course cancel out, and only the payments from and to customers would remain. The reason why we select for inspection all brokers together instead of a single broker is that our object is to explain the total of brokers' loans and not loans to individual brokers. The individual broker will of course need to borrow when he has to pay a clearing difference to another broker, but the latter will repay a loan or grant a loan *at the same time* and no later.[2] Consequently, the daily shifts of clearing balances between brokers do, it is true, lead to shifts in the person of the borrower, but they do not give rise to changes in the total volume of borrowing. Changes in the total volume of borrowing are caused exclusively by differences between payments *by* customers and payments *to* customers. If the payments *to* customers (mostly in respect of the proceeds of sales) are the larger, then the brokers need to take up new loans; if the payments *by* customers (mostly in respect of purchases and also dividends received on their behalf) are the larger, then the brokers are able to pay back old loans.

---

[1] The best description of the mechanism and the significance of brokers' loans is to be found in a series of articles by Wilford J. Eiteman. See "The Economics of Brokers' Loans," *American Economic Review*, 1932, Vol. XXII, pp. 66-77; "The Economic Significance of Brokers' Loans," *The Journal of Political Economy*, 1932, Vol. XL, pp. 577-590; "The Relation of Call Money Rates to Stock Market Speculation," *Quarterly Journal of Economics*, 1933, Vol. XLVII, pp. 449-463. The analysis of the first sections of this chapter, which did not appear in the German edition of the book, is largely based on Eiteman's investigations. The analysis deals in the main with the New York Stock Exchange which until the summer of 1933 had daily settlements. The procedure on the London Stock Exchange would in part give other results. The

Payments from and to customers determine the brokers' borrowings

The process may be made clearer by the aid of examples depicting schematically the course of events.[3] (Ledger balances are shown in Appendix A.)

First illustration,—

Monday. Mr. A pays his broker the sum of $20,000 and informs him that he will give him an order to buy in due course. The broker credits A with the

---

difference arises essentially from the two institutions: the long settlement period in London which greatly increases the off-setting possibilities, and the custom of immediately remitting sales proceeds (in the absence of orders to the contrary) by way of bank cheques instead of merely crediting them to the account of the seller. In many respects the two differences tend in the opposite direction and their effects may cancel out.

[2] "Simultaneity" is present for all practical purposes when the two transactions are carried out on the same day. In New York cash deficits for a few hours are met, if it seems necessary, by so-called "day loans," i.e., loans that are 'to be repaid at or before the close of business this day.'

[3] Such examples have of course to isolate the effect of the particular events that we want to explain. They have therefore to abstract from all other transactions which may be taking place simultaneously but which have no direct connexion with the matter in hand, and they have also to exclude intermediate steps.

amount and in the meantime applies it to the purpose of reducing his bank debts.[4]

The total of brokers' loans declines on this day by $20,000.

Tuesday: Mr. A gives his broker an order to buy. The broker buys the shares ordered by his customer for $19,500 from another broker who is selling the shares on behalf of his customer Mr. B.

Settlement does not take place until the next day.[5] To-day there is no change in the positions.

Wednesday: A's broker borrows $19,500 from his bank[6] in order to pay to Mr. B's broker. The latter credits his customer with $19,500, but as B has not demanded payment he (B's broker) uses the $19,500 to pay off part of his own debt to the bank.

—which show that stock purchases and sales do not affect brokers' loans —

On this day the total of brokers' loans has not changed.

Thursday: Mr. B gives his broker an order to buy $12,000 worth of stocks and asks for payment of the rest of what is due to him. The broker borrows $7500 in order to pay this amount to Mr. B. He buys the required shares from another broker who is selling for the account of a Mr. C.

---

[4] If there were simultaneous withdrawals of funds on the part of other customers, he would apply the funds received to these out-payments so that the funds would have the effect of making it unnecessary for him to increase his bank debts. If he had no bank debts he would use the funds received to lend to other brokers so that the bank debts of all brokers together would decline. A schematic example can and should leave these possibilities out of account, because they do not alter the result, i.e., the relevant end effect of the initial event. Brokers often deny that they use the in-payments of their customers for their "own purposes." But this is naive. It would be ridiculous if they were to accumulate enormous bank deposits instead of using their receipts to effect their outgoings.

[5] In the twenties, the settlement on the New York Stock Exchange took place on the day following the transaction. From 1934 to 1936 settlement was on the second day following the transaction. Since September 1, 1938, Tuesday and Friday of each week are settlement days.

[6] In practice he will borrow a larger amount and a round sum. This is, however, simply a matter of adding together a large number of transactions and can be ignored here.

On this day brokers' loans have risen by $7500.

Friday: B's broker borrows $12,000 in order to pay C's broker.[7] The latter credits his customer with the $12,000 and reduces his own debts.

On this day the aggregate of brokers' loans has not changed.

Review of the week. The total amount of brokers' loans outstanding has fallen by $12,500. This is explained by A's paying in $20,000 and B's withdrawing $7500. Mr. A has acquired a brokerage deposit of $500 and Mr. C a brokerage deposit of $12,000; these new brokerage deposits of together $12,500 correspond to the decline in brokers' loans. The decline in brokers' loans corresponds in turn, if they are loans from the banks, to a decline in bank deposits which involves an increase in the "excess reserves" of the banks. In so far as the flow *on* to the stock exchange has not flowed *off* the stock exchange, it has caused a paying back of bank credits and thus made it possible for new bank credits to be granted to the same amount. The new flow of money capital to the stock exchange is counterbalanced in the case described by a reduction in bank lending to the stock exchange.

—that an excess of customers deposits over customers withdrawals causes a decline in brokers loans,—

—and that a new flow of saved funds to the stock exchange causes a fall in bank loans and deposits.

50. The fact that a large number of speculators buy more stocks than they can pay for out of their own resources, i.e., that they borrow "margin loans,"

---

[7] In reality the broker does not, of course, borrow such small amounts. In practice it might perhaps happen that the $7500 of Thursday would be part of a loan of $100,000 and that the $12 000 of Friday would be covered by simultaneous receipts from other customers. It must not be forgotten that in this example we are isolating a single case.

When customers buy "on margin" and thus borrow from the brokers, the brokers need not borrow unless the sellers demand payment.

would not in itself necessitate any growth in brokers' loans. For if the people whose stocks are sold to the "margin speculators" do not withdraw the sales proceeds from the stock exchange, that is to say, if they do not take them away from their brokers, the brokers have nothing to pay out and do not need to borrow anything. The buyer of the stocks will have run up debts with his broker, but the brokers do not need to borrow new money from anybody so long as the seller does not demand payment of the money due to him. The buyer will have bought without paying in the amount due, and the seller will have sold without being paid the amount due. If the buyer and the seller both keep their accounts with the same broker, then there will not even be any alteration in the borrowing positions of the individual brokers. If the buyer and the seller keep their accounts with different brokers, then the broker of the buyer will have to take a loan and the broker of the seller will be able to pay back a loan; or in the case that this latter broker has no debts he will himself lend to the broker of the buyer.*

Neither security turnover, nor security prices, nor speculators' borrowings directly determine brokers' loans.

Thus, the total amount of brokers' loans is directly dependent neither on the stock exchange turnover, nor on the level of security prices, nor on the new margin debts incurred by speculative buyers. It is dependent only on the difference between payments in by customers who have bought shares (plus dividends received for customers) and withdrawals by customers who have sold shares (or are collecting dividends). What these sellers, whether they be owners of old shares or issuers of new shares, do with their money is of course not apparent from the statistics of brokers' loans. All that may probably be concluded from the statistics* when they show a rise in brokers' loans is that larger sums have been withdrawn from the stock exchange, that is from the brokers, than have been paid in to the brokers.

---

* If this loan (of the seller's to the buyer's broker) is granted not directly but through the agency of a bank (now prohibited in the United States), the statistics will show an increase in brokers' loans. This would be a case where a rise in brokers' loans does not have the slightest connexion with the inflow, the outflow, or the absorption of money capital. If a broker who has surplus funds lends to his own customers, this does not appear in the statistics of brokers' loans. But if he makes the loan, through the agency of a bank and of another broker, to a customer of this other broker, brokers' loans will rise.

Let us again illustrate the relationships by taking another week's transactions. (Ledger balances are shown in Appendix A.)

Second illustration,—

Monday. Mr. A, who has deposited securities to the value of $20,000 with his broker, is optimistic and desires to buy more securities to the value of $10,000, i.e., he takes up a "margin loan." The broker buys the shares from another broker who is selling them for the account of Mr. B.

Settlement does not take place until the following day.

Tuesday. A's broker borrows $10,000 and pays this sum to B's broker. The latter credits B with the amount and reduces his own debts.

Thus brokers' loans in the aggregate have not risen. The margin debts of customers to their brokers have risen (since Mr. A now has a debit of $10,000 against his account) and the brokerage deposits of customers have risen (since Mr. B now has a credit of $10,000 to his account). The margin debts of the brokers, i.e., the sum of brokers' loans, have however remained unchanged.

---

* Only probably, but not with certainty, as may, for example, be seen from the preceding footnote, and will be seen further below in this chapter.

Wednesday. Mr. B orders his broker to pay him $5000 (of the $10,000 due to him) and to buy certain shares for $8000. He thus incurs a margin debt to the extent of $3000. The broker borrows $5000 to pay out to B. He buys the $8000 worth of shares from a broker who is selling them on behalf of C.

On this day brokers' loans have increased by $5000. Settlement of the stock purchase takes place to-morrow.

Thursday. B's broker borrows $8000 and pays this amount to C's broker. The latter credits C with the $8000 and uses them to reduce his own debts.

On this day the total of brokers' loans has not changed. It will not change until C, or somebody from whom he buys other shares, withdraws money from the broker.

—which shows that the excess of new customers' borrowings over new brokerage deposits held by customers equals the rise in brokers' loans—

Review of the week. The sum total of brokers' loans has risen by $5000. This is the amount withdrawn by B. The margin debts of customers have risen by $13,000 (A borrowed $10,000 and B $3000) and the brokerage deposits of customers have risen by $8000 (which were credited to the account of C). The difference between the growth in customers' debts to brokers and the growth in customers' deposits with brokers (which are identical with brokers' debts to their customers) is balanced by the growth in brokers' debts to the banks. The increase in lending by the banks amounts to $5000; the new brokers' loan led to the creation of a bank deposit which was placed to the account of Mr. B on Wednesday. What he does with it we do not know. He may use it to increase the stocks of materials or the equipment of his firm, he may buy his wife a fur coat with it, he may lend the money and earn interest on it (see § 52), or he may, in certain circumstances, leave it idle (see Chapter VIII).

—and that the new brokers' loans create bank deposits to account of those who withdraw funds from the stock market.

The expansion of bank lending was here the source of the flow of money capital to the stock exchange, but it had no sooner flowed onto the stock exchange than it flowed out again, since the brokers' loan was only borrowed for the specific purpose of making payments to customers

These interconnexions have been described with remarkable clarity by Eiteman. He comments on the enormous figures of brokers' loans in New York in 1929 in the following terms "Since increases in the total of brokers' loans represent an excess of customers' withdrawals over deposits, it follows that the huge brokers' loan total of 1929 indicated the amount of funds withdrawn from speculation rather than the amount diverted into speculative channels for purposes of aiding stock gamblers to trade on margin. Whether these loans also deprived legitimate business of needed funds depends upon the uses to which the funds were put by those who made the withdrawals."[10] If the sellers who withdrew these funds had themselves used them to purchase other securities a couple of days later (as many other authors thought was likely), brokers' loans would have declined again, or in the case that the next sellers had immediately withdrawn the proceeds, would at least not have increased any further "But some group must have sold stocks without repurchasing, for the total of brokers' loans did increase During 1928 and the first nine months of 1929, corporations whose stocks were listed on the New York Stock Exchange are known to have printed and sold shares of new issues for which they received $3,042,120,000 in cash"[11] In short, a substantial part of brokers' loans were taken up in order to pay out new capital to corporations

The vast sum of New York brokers' loans in 1929 could be interpreted as indicating huge withdrawals of funds from the stock market,—

—especially by corporations which sold new issues of shares.

---

[10] Eiteman, *op. cit.*, *American Economic Review*, 1932, Vol XXII, p 77 I shall have to qualify this statement of Eiteman's in § 56

[11] Eiteman, *op. cit.*, *Quarterly Journal of Economics*, p. 460

Some writers believed the increase in brokers' loans was caused by stock price increases,—

—especially because brokers would need larger balances for handling a larger turnover

This view is faulty —

—there is no inherent necessity for larger balances,—

51. Many authors were not prepared to accept this interpretation of the heavy increase in brokers' loans [2] The statistical correlation between brokers' loans and stock prices was too striking "The great increase in brokers' loans was a function of stock price increases."[3] And in saying this Professor Beckhart was undoubtedly expressing the opinion of many of his colleagues It is interesting to note that in this statement (true to the tradition of the Banking School) it is not the stock prices which are treated as a function of the volume of credit, but the volume of credit which is treated as a function of stock prices. If what is meant by this is that in consequence of the higher prices the value of the turnover rises and the brokers require larger cash holdings to deal with this turnover, it may be said at once that it is simply not true (see § 40 above) Yet Professor Ellis also believes that "Local brokerage houses can no more expect to carry through a larger volume of business with the same credit balances than can a local grocer "[4] It seems to me that this misses the essential distinction The local grocer cannot help having his till fuller at the end of a busy day than on a day when business has been slack But the broker who has heavier receipts from customers, and in addition expects an active balance in the stock exchange clearing, will use his receipts even before the end of the day's business (he may use part of them even before the stock exchange clearing) either to repay his debts or to lend out at call There is no reason why he should keep larger bank deposits in consequence of the higher turnover or merely as

---

[2] E g , Benjamin H Beckhart, 'Fluctuations in Brokers' Loans and Interest Rates' *Proceedings of the Academy of Political Science*, Vol 13, 1930, p 15 'The rise in brokers' loans did not reflect a new method of financing industry, but an old method of security speculation'

[3] *Ibid*

[4] Howard J Ellis, *op cit*, p 384

a result of higher stock prices. But even where rules or conventions or convenience induce the brokers to keep larger bank balances when their turnover or their debts increase, the effect is of a ridiculously small order of magnitude. In proportion to the turnover and to the volume of brokers' loans in times of boom, or indeed in proportion to the total increase in circulation, the bank deposits of brokers are almost microscopically small.

—and their relative size, even if increased, is trivial

Thus, in order to give the argument a generous interpretation and to make sense of the statement that brokers' loans are a function of stock prices, the level of stock prices must somehow be linked up with withdrawals of customers' funds. The link is not difficult to discover. High stock prices lead (1) to withdrawals of their gains by those who want to consume their additional "income," (2) to withdrawals of the whole of the sales proceeds by those who want to "get out" of the stock market, and (3) to the flotation of new shares and the withdrawal of the sales proceeds by the issuing corporations.[5] All these withdrawals are, so far as is necessary, financed by new brokers' loans. The rise in stock prices may thus be said to explain the volume of brokers' loans just in so far as it explains withdrawals of sales proceeds; to treat it as being in some way antithetical to these withdrawals is a grave misunderstanding.

High stock prices, however, encourage withdrawals by profit takers, and by corporations issuing new stock

Brokers' loans finance these withdrawals.

Earlier we drew a contrast between the thesis that the volume of credit is a function of stock prices, and the thesis that stock prices are a function of the volume of credit. This antithesis is found very frequently, but unfortunately no care is taken to make clear the not unimportant fact that "the volume of credit" means in one case the "demand for credit" and in the other case the "supply of credit" An ample *supply* of loanable funds will lead to a lower interest rate, and, under certain circumstances, to increased business activity and higher stock prices. The higher stock prices lead to withdrawals of funds from the stock market by the sellers of stocks, and thence to a *demand* for credit by the broker. In what follows we shall try to show that the money which flows out of the stock exchange may sometimes reappear as part of the credit supply and make further rises in stock prices possible.

---

[5] The point has been put similarly by R. G. Hawtrey, *The Art of Central Banking*, London 1932, p. 70: "The favourable market for shares attracts new issues, and the rise of prices of shares yields speculative profits."

Supply of easy credit may lead to demand for brokers loans

52 The high stock prices offer corporations a rare opportunity to cover their past, current, and future capital needs on the most favourable terms. Capital may have been raised in the past through unfunded debts or through the issue of fixed interest-bearing bonds. The high stock prices provide the corporation with the incentive to alter its financial capital structure by paying back the debts or the bonds, and so reducing the interest charge and raising its profits. The high stock prices also encourage corporations to raise capital for all kinds of new investment, including investment which is undertaken only because the conditions for obtaining capital are so favourable. Finally, they encourage the raising of capital for which there are as yet no specific investment plans; corporations do not want to let so favourable an opportunity for obtaining capital pass even if they have not drawn up their investment plans. (In the United States, the regulations of the Securities Exchange Commission have made it impossible to raise capital for as yet undetermined purposes. Stock issues of this kind were not infrequent during the boom of 1928-29.)

Soaring stock markets induce stock issues—

—for refunding—

—for new investment—

—and sometimes for undefined purposes

In all three cases (refunding, new investment, and indefinite plans) the proceeds of the stock issues are in the first instance withdrawn from the stock exchange, so that if the purchasers have procured funds by taking up margin loans there will be an increase in brokers' loans. In the first and third cases, i.e., where the newly raised money capital is not immediately used for the purposes of real investment, the money withdrawn from the stock exchange may return there in one of two ways. The corporations (or the creditors who are repaid or the previous owners of bonds that are now redeemed) may themselves use their increased cash balances to *purchase stocks*; this would result in payments to brokers and a consequent decline in the volume of brokers' loans outstanding. *Or* the corporations (and other recipients of the funds) may use their increased cash balances to grant *loans to brokers*. This is very attractive if the rate of interest on call money is high. The result is that the same funds (as originated in an initial broker's loan) may serve to finance withdrawals by other people and capital issues by other corporations—and the statistics will register a further rise in brokers' loans.

The funds withdrawn from the stock market may return again—

—for other stock purchases,—

—or for other brokers' loans

Some part of the funds withdrawn by a corporation thus returns to the stock exchange. Strictly speaking, of course, they do not go back "to the stock exchange," for they are only used there in order to be paid out to other persons and corporations. Thus, the cash balances of one corporation may be transformed into cash balances of another corporation, but not without causing the statistical returns to show a rise in the aggregate of brokers' loans.

The withdrawals by one seller may be used, through new loans to brokers, to finance the withdrawals by another seller

The analysis becomes increasingly complicated as we proceed, and it may be helpful to give a new illustration of the transactions of another "week." (Ledger balances are shown in Appendix A.)

Third illustration.—

Monday. Mr. A, who has a large deposit of fully paid-up stocks, orders his broker to buy $35,000 worth of stocks. The broker obtains them from another broker who carries out the sale on behalf of Mr. B. At the same time as he ordered his broker to sell these stocks Mr. B also directed him to purchase other stocks to the value of $53,000 of which $32,000 worth are a new issue of corporation M. The broker buys the remaining $21,000 worth from another broker who is selling for the account of Mr. C.

Settlement takes place on the following day.

Tuesday. Mr. A receives certain funds that he had been expecting and pays in $10,000 to his broker. He thus remains in debt to the extent of $25,000. A's broker borrows $25,000 from his bank and pays $35,000 to B's broker. B's broker pays $32,000 to corporation M for yesterday's sale[6] and $21,000 to C's broker. B's broker must therefore borrow $18,000 from his bank for his customer's purchase. C's broker, who, so far, has received no further orders from his customer, credits him with the $21,000 sales proceeds and reduces his own bank debt by the same amount.

—which shows that buying, on margin, of new issues increases brokers loans because the corporations withdraw the funds;—

On this day the margin debts of customers have risen by $43,000 and brokers' loans by $22,000 ($25,000 plus $18,000 minus $21,000).

Wednesday. Mr. C orders his broker to buy him $20,000 worth of a new issue of corporation N. The broker makes the purchase. Settlement takes place to-morrow.

Thursday. Corporation N withdraws the $20,000 deriving from yesterday's sale of stock. The broker C takes up a loan offered by corporation M[7] to the amount of $32,000 and (after paying $20,000 of it to corporation N) pays $12,000 back to his bank Mr B asks his broker to pay him out the sum of $6000; his broker finds Mr B has sufficient margin so he borrows the $6000 from his bank and remits them to B

---

[6] Here we are making another rather unrealistic simplification. It appears as though corporation M had conducted the sale of its new issue directly through this broker, and as though the sale to Mr. B represented the whole of the issue. A completely realistic exposition would not, however, alter the results.

—that these funds may be used for *other* brokers loans, which may serve to liquidate bank loans to brokers,—

On this day the margin debts of customers have risen by $6000 Loans granted by the banks for their own account have diminished by $6000 ($12,000 minus $6000) brokers' loans on account of others have risen by $32,000 The aggregate of brokers' loans has thus increased by $26,000

—that they may also serve to finance new margin buying of other new issues and thus withdrawals by other corporations

Review of the week The aggregate of brokers' loans has risen by $48,000 of which $16,000 are on account of the banks and $32,000 on account of others The margin debts of customers to brokers have risen by $49,000 (Mr A $25,000, Mr B first $18,000 and then another $6000) Brokerage deposits of customers have risen by $1000 (Mr C sold $21,000 worth of stocks and bought $20,000 worth)

The rise of $48,000 in the total of brokers' loans is explained by the fact that $58,000 have been withdrawn from brokers and only $10,000 have been paid in to brokers This payment came from Mr A, and the withdrawals were those of the two corporations totalling $52,000 (M $32,000 and N $20,000) and the $6000 taken away by Mr B.[4]

---

[7] It is immaterial whether we assume that the brokers' loans for account of the corporations are granted directly or by the banks acting as intermediaries The latter would be the so-called "loans on account of others." Under recent regulations these are no longer permissible in the U S (The Banking Act of 1933 prohibits member banks from acting as the agents of corporations and individuals in the making of loans on securities) It was the usual thing in the boom of 1928-29 However this may be, if the corporations lend out their liquid funds to brokers directly, the result is no different from the case where the lending takes place through the banks "on account of others," so long as these call loans are included in the statistics. It may be that corporations will be less anxious to make these call loans if the banks do not act as intermediaries In the above example we assume that the corporation lends money at call without a bank acting as intermediary

How much money has gone to the stock exchange?—

What does this figure of $48,000 signify? Was the amount of funds which flowed onto the stock exchange $48,000? Or was it $58,000 so as to count the remittances by customers as well as the loans? Neither the one nor the other can be seriously argued. It would be quite unreasonable to calculate that on the Tuesday in our example $32,000 ($10,000 paid in by customers and $22,000 derived from bank loans) flowed onto the stock exchange and that on the Thursday a *further* $26,000 (in the form of loans) followed. These "additional" funds were in fact still the same funds, parts of which were transferred from the account of corporation M to the account of corporation N and to the account of Mr B. If corporation N also offered credits which were used to finance company O, and this process continued, one and the same dollar would wander on and on from one account to another and cause the total of brokers' loans to rise with each successive transfer.

—by no means the total increase in brokers' loans, since it may count the same amount several times

The deposit by a saver—

53. What is the amount which can really be considered to have "flowed on" to the stock exchange in our example, and what has become of it? Let us assume that the $10,000 paid in by Mr A had been saved by him out of his current income. These $10,000 must undoubtedly be treated as having flowed on to the stock exchange. In addition the banks have granted credits to the extent of $16,000 net. This sum which may be assumed to be the result of credit expansion by the banks has also flowed on to the stock

—and loans extended by banks for own account represent the real efflux,—

---

[4] In our example there was only very little realization of profits (the profit-taking of Mr. B) and there was no liquidation of bull positions. This is why the total of capital raised by the corporations is so high in relation to the total of brokers' loans.

exchange, making in all $26,000. And where were these $26,000 at the end of our week? $20,000 has passed into the account of corporation N to await further allocation by the treasurer of this corporation, and $6000 were in Mr. B's account on Thursday, but by Friday they had probably already been transferred to the account of somebody else, since B will not have withdrawn his money just for fun.[a]

—which went to those who withdrew funds

The $26,000 thus registered stock exchange credits of no less than $48,000. If, on the following day, corporation N lends its $20,000 to brokers, who use it to finance the purchase for Mr. D of $20,000 worth of the stock newly issued by corporation O, then the figure for stock exchange credits will already have risen to $68,000, with every prospect of gaily rising further. The volume of funds which "have flowed onto the stock exchange" will still, however, be no more than the $26,000 subscribed out of the savings of Mr. A and the credit expansion of the banks.

But does not this clearly prove, it will be asked, that funds were absorbed in stock exchange transactions? Have not $20,000 been shifted from one account to another in a series of unproductive transfers? If it is granted that funds, which incidentally owe their existence chiefly to new credit expansion by the banks[1], are taken up for a certain period of

Part of these funds may be tied up in a chain of financial transactions,—

---

[a] It must not be forgotten that Mr. B has to pay interest so it is unlikely that he will intend to leave his $6000 on account with his bank without receiving any interest on them. Perhaps he needed the money to pay a contractor who is building a summer villa for his wife.

[1] See Benjamin M. Anderson, "Brokers' Loans and Bank Credit," *Chase Economic Bulletin*, Vol. VIII, No. 4, October 1928, p. 12: "The primary source then of the great volume of free funds in possession of individuals, firms, corporations, foreign banks, investment trusts, &c., available for loans on the Stock Exchange, is the prior expansion in earning assets and deposits by the banks."

time[2] by this "merry-go-round" on the stock exchange, can we say that the level of brokers' loans is any sort of indication of the amount of funds that is thus tied up? If one dollar passes from brokers' loans to new share capital, back to brokers' loans and again to new share capital, and the same process repeats itself many times, *the aggregate of brokers' loans may rise very high, but the one dollar remains one dollar.*

—which may raise the statistics of brokers loans to a multiple of these funds

54. In our example the $10,000 of Mr. A and the $16,000 from the banks ($26,000 in all) performed the incredible task of financing a withdrawal of $6000 by Mr. B and new issues of $52,000 by corporations. But the task does not appear to be so incredible once it is realized that part of the financing of corporations is of a rather peculiar character, viz., that the share capital subscribed is lent to the share purchasers. It would of course be a mere coincidence if the new capital of any particular corporation were lent, through the agency of the banks and the brokers, to the corporation's *own* shareholders; but there is nothing extraordinary about corporations in general lending part of their new share capital, via brokers' loans, to the buyers of shares in general. What this amounts to is that the buyers of shares remain in debt to the corporations for a part of the price of the shares.

Corporations, by making loans to brokers, finance in part the purchase of their own shares by the new stockholders.

This fact is of no small significance. The circumstance that the buyers of the shares, even if only indirectly, have become debtors of the corporations, means in the first place that the money capital actually received by the corporations was less than the full amount of shares sold. These purchases of shares required neither the money of the shareholders nor bank credit.[3] Since those who bought the shares and borrowed the sales proceeds (indirectly) from the issuing corporations did not need either the savings of the public or bank credit for the purpose, it is obvious that in this case neither the savings of the public nor bank credit can have flowed onto the stock exchange or have been absorbed by it.

---

[2] J. H. Rogers is of the opinion that "beyond the time required for the transfer of the funds (about one day) the further lending capacity of the banking system as a whole suffers virtually no reduction from an increase in such brokers' loans."—"The Effect of Stock Speculation on the New York Money Market," *Quarterly Journal of Economics*, Vol. XL, p. 449. But if there is a series of transfer payments, the process can always go on lasting "one day longer."

For this borrowed part of new stock purchases neither savings nor bank credits are required

The fact that the corporations, through their loans to brokers, have become creditors of the purchasers of shares is significant for another reason also. The credits are repayable at short notice. It would be rather surprising then if these credits were to be called in[4] so gradually that the owners of the shares could pay them off out of current savings. In the absence of this possibility the repayment of the funds to the corporations can come from the following sources: (1) the gap may be filled by an increase in bank credit, (2) owners of liquid funds may buy the shares at low prices; (3) corporations may buy the shares, or other securities,[5] at low prices.

Eventual payment to corporations may take place—

—out of current savings—

---

[3] Bank credit was not required for these particular share purchases. On the other hand it played its rôle beforehand in order to create the sentiment necessary to induce buyers to make large purchases on borrowed funds. I find that Professor Eiteman has discussed the brokers' loans by corporations in Chapter X of the study by the Twentieth Century Fund on *The Security Markets*, p. 325. He has arrived at the same conclusion as I have, viz., that "until the corporations' demand for payment materializes, no money is involved."

[4] Incidentally, such credits are for the most part called in through the intermediary; the broker demands payment from the buyer whose account becomes undermargined.

[5] American corporations under the "Delaware Charter" may buy back their own shares. The purchase of the shares of other corporations, when a break in prices occurred, was less usual than purchases of their own shares. The buying up of bonds also comes under the same process, of course. The owners of shares who were forced to liquidate had to sell out also bonds that they possessed. These were bought by their creditors, the liquid corporations.

—through new bank credit,—

—with idle funds —

—or by selling securities to the corporations —

In case (1) loans to the brokers by the banks on their own account are substituted for loans on the account of others. The new bank loans create bank deposits held by the corporations. In case (2) the aggregate of brokers' loans undergoes a sharp decline. Bank deposits previously held by somebody as liquid reserves now become deposits of the corporations. If the corporations have a use for these cash balances, an act of dishoarding can be said to take place. In case (3) the total of brokers' loans falls sharply just as in case (2). The corporations obtain shares especially cheaply from those who owed "them" (only indirectly "them") the purchase price. Here bank deposits are neither transferred nor created nor destroyed. The corporations simply take securities in payment of loans outstanding.[6]

—and, of course, no funds are "released" by the decline in stock prices.

Those who believed rather naively that an enormous amount of stock exchange credit was absorbed by a rising stock market also thought, when they were consistent in their reasoning, that the credits absorbed were set free, either wholly or in part, when stock prices fell.[7] A glance at the list given above of the possible ways in which brokers' loans may be liquidated shows that the story of the release of the credits is no truer than the story of their absorption.

Large sums of brokers' loans are made out of one dollar,—

55. As has already been shown one dollar is capable of creating many dollars' worth of brokers' loans. One

---

[6] The following statement by W. J. Eiteman deserves mention in this connexion. "The total of brokers' loans, hence, represents not the amount of credit used by speculators at the expense of legitimate business, as is so often contended, but rather the amount being put to illegitimate uses by business at the expense of speculators" (*op. cit.*, *Journal of Political Economy*, 1932, p. 690).

[7] See Hans Richter-Altschaeffer, "Some Theoretical Aspects of Stock Market Speculation," *Journal of Political Economy*, 1931, Vol. XXXIX, p. 233. "A declining stock market at best implies a replenishment of the 'capital reserve' [i.e., capital supply] to the extent of a previous reduction, and ordinarily only to a smaller extent."

dollar may become sales proceeds and brokers' loans and again sales proceeds and so on, and in this way produce a continual increase in the figure for brokers' loans.

—but also without any dollar

But many dollars' worth of brokers' loans may also be created by no dollar at all. This may best be explained by going straight to an example. (Ledger balances are shown in Appendix A.)

Fourth illustration,—

Monday. Mr. A who possesses a large deposit of securities and therefore has sufficient margin wishes to buy $30,000 worth of shares on credit. His broker obtains them from another broker who is selling for the account of Mr. B.

Settlement takes place on the following day.

Tuesday. A's broker borrows $30,000 from his bank and pays this sum to B's broker. B's broker has received no further orders from his customer and so credits him with the $30,000 and reduces his own bank debts by the same amount.

Mr. C asks his broker to buy him $20,000 worth of shares on credit. His broker obtains them from the broker of a Mr. D. This transaction will not be settled until to-morrow.

Up to now the total amount of brokers' loans has not changed although the margin debts of customers to brokers have risen.

—which shows that brokers loans from banks rise when sellers withdraw their funds but fall again immediately when sellers use the funds for making loans to brokers,—

Wednesday. Mr. B withdraws his $30,000 from his broker. The broker borrows the money from his bank. Mr. B offers to lend the $30,000 at call. The amount is borrowed by Mr. C's broker. Mr. C's broker uses $10,000 to reduce his bank debt and $20,000 to pay Mr. D's broker. Mr. D's broker credits his customer with the $20,000 and uses the funds to reduce his own bank debt.

—that total brokers' loans rise when sellers withdraw and lend to brokers;—

On this day the total of loans granted to brokers by the banks on their own account has not risen, but brokers' loans on account of others have risen by $30,000.

Thursday. Mr. D buys $5000 worth of shares. His broker obtains them from Mr. A's broker who is selling for the account of Mr. A.

Settlement takes place to-morrow.

Friday. Mr. D withdraws $10,000 from his broker. The broker borrows these $10,000 and the $5000 which he owes to A's broker from his bank. Mr. D offers to lend the $10,000 at call. They are borrowed by Mr. A's broker, who adds them to the $5000 which he received for the shares sold on behalf of Mr. A, and pays back $15,000 to his bank.

—and that brokers' loans may increase while customers' margin debts decrease

On this day loans granted to brokers by the banks again remain unchanged. Brokers' loans on account of others have increased by $10,000. The margin debts of customers to their brokers have been reduced by $5000 (through Mr. A's sale).

Review of the week. The total of brokers' loans has risen by $40,000. The whole of the increase was on account of "others" and the loans granted by the banks remained unchanged. The margin debts of customers to their brokers have risen by $45,000 (Mr. A $30,000 minus $5000, Mr. C $20,000) and the brokerage deposits of customers have risen by $5000 (of Mr. D).[1]

In our example the rise in brokers' loans on account of "others" did not lead to any fall in loans to brokers from the banks, because those who lent the call money used the proceeds of their sales and not funds which they had held previously If the call loans had been financed, say, by Messrs X and Y out of their bank balances instead of by Messrs B and D out of their sales proceeds, these funds would have led to a net repayment of brokers' loans of the banks [2] Here, however, it was the sales proceeds which were employed to make the loans, the brokers took the loans in order to pay out the sales proceeds, the customers asked for payment of their sales proceeds in order to make the loans

---

[1] In order to show that purchases with borrowed money, i.e., margin debts of customers, and brokers' loans do not run parallel, we took a case where the former rose from Monday to Wednesday and then fell while the brokers' loans rose throughout.

Brokers loans by "others" reduce bank loans, if the funds come from existing bank deposits but not if they come from sales proceeds and old brokerage deposits.

56 If the sellers leave their sales proceeds with their brokers, the volume of brokers' loans does not rise despite the rise in margin debts of the buyers The brokers can lend to those who want to buy on margin without themselves borrowing for the purpose, provided the sellers leave their sales proceeds on deposit with the brokers In this case the sellers wait for payment by holding brokerage deposits

The sellers may actually wait for payment, either by holding brokerage deposits –

But now the owners of the brokerage deposits may decide to withdraw their funds and transfer them back to the brokers in the express form of loans The only difference between this and the previous situation is that the brokers now have to pay interest and that the statistics of brokers' loans show an increase This does not, however, alter the fact that the buyers of securities still owe the price to the sellers

—or by making brokers' loans;—

—only the second method affects statistics of brokers' loans

It is evident that this process does not involve either any inflow of funds or any tie-up of funds, but nevertheless the volume of brokers' loans rises Mr M buys shares from Mr N but does not pay for them Mr N lends the sales proceeds due to him to the broker and through the latter to the purchaser M This simple fact that M buys from N because he expects share prices to rise and N lends the sales proceeds because

There is not any efflux, and still less, any tie up, of funds, and yet figures of brokers loans rise when the seller indirectly lends to the buyer he gets interest on them, is registered in the statistics as a rise in "brokers' loans on account of others" or "from others than banks." And this statistical phenomenon has misled a large number of authors into concluding that the stock exchange absorbed an alarming proportion of the country's credit supply [1]

---

[2] Loans for account of others liquidate bank credit ' B M Anderson, *op cit* p 4 Mr Anderson's statement holds when the "others" make their loans out of existing bank deposits.

The credit given by the seller to the buyer could not be given to anybody else —

This lending by the seller of the shares to the buyer —however dangerous it may be from the point of view of market stability—has deprived nobody of either money or credit. The purchaser did not take money away from anybody else by making the purchase, because he did not have or use any money. The seller did not take credit away from anybody by lending it to the stock exchange, because he could not have lent to anybody other than the buyer of his shares since he was only able to sell the shares at a favourable price by disposing of them to the buyer who had no funds.[2]

---

[1] See the *Annual Report of the Federal Reserve Board for the Year 1929*, p 1 "Collateral indications derived principally from the intense activity of the security markets and the unprecedented rise of security prices gave unmistakable evidence of an absorption of the country's credit in speculative operations to an alarming extent"

[2] In this sense it is perfectly correct that "Increases in security prices in the boom years of 1928 and 1929 were supported most largely by loans to brokers for account of 'others'—corporations and individuals"—W Randolph Burgess, *The Reserve Banks and the Money Market*, revised edition 1936 p 262 It is a strange thing that the notion that brokers' loans may simply result from the sellers' waiting for their money has, so far as I know, never been clearly formulated Thus F. Lavington, who was extremely well informed of the facts of credit markets, thinks exclusively of existing funds when he analyses the sources of stock exchange credit. See *The English Capital Market*, p 231 "This money is obtained partly by direct borrowing from the banks and other parties with disposable funds, partly from Stock Exchange firms who lend their own money and also money which they obtain from banking and other sources" Likewise Hawtrey, in inquiring into the source of the funds, never hit upon the idea that they might be derived simply from the lending of sales proceeds. Referring to the "loans from others than banks," he asks, on p 59, *op cit*, "Who were these other lenders?" When he commences his answer (p 60) by saying that "for the most part the loans from others than banks did not form an addition to the resources of the investment market," it looks as though he is going to hit upon the solution which has been put forward in the text above Instead of this, Hawtrey concludes that these loans "represented money

M had no money with which to finance productive investment and neither had N N had shares which he sold to M on credit This transaction appeared in the statistics as an increase in stock exchange loans

—because neither of the two has liquid funds.

57 When these loans are called in, it usually happens that the owner of shares who is in debt is at best able to scrape together a small part of what he owes by compelling himself to save out of his current income from other sources (salaries, business profits) But this is, of course, far too little, and he is forced to liquidate his holdings of shares And the person who is most able and willing to buy is the person who lent the call money [3] He is in a liquid position, not in the sense that he has bank notes or bank deposits, but because indirectly he holds the claims against the owners of the shares, claims which have to be paid by the sale of those shares

When the lender of call money buys after the crash the stocks from the margin debtor,—

The shares which our Mr M now has to sell at a low price are bought by Mr N The seller does not obtain

---

which was being held back from investment" by the lenders and that "it is safe to say that, if the money had not been lent, it would itself have been invested" A still more explicit formulation is given on page 70 where he says "the increase in brokers loans was supplied mainly . . . by the temporary lending of money, which had been saved out of income and would otherwise have been invested" It is hardly necessary to emphasize that Hawtrey does not mean by this that the money by being used as stock exchange credit is withdrawn from real investment On the contrary, he declares categorically on page 73 "But in any case the idea that money lent to the Stock Exchange is withheld from trade and industry is fallacious The money so lent is used directly or indirectly to carry new issues and the new issues are a channel for financing the production of capital goods"

J M Keynes has hinted several times at the case of the lending of sales proceeds (e g *Treatise on Money* Vol I, p 267 and Vol II, p 196) When he came to the interpretation of the level of brokers loans, however he did not think of the possibility that loaned sales proceeds might be included We shall comment on Mr Keynes' interpretation in the next chapter

[3] See Benjamin M Anderson, *op cit* p 14 "Investors lending temporarily to the Stock Exchange look forward to the time when security prices will be more attractive [i e , lower], and when they will take securities themselves, instead of holding loans against securities"

—the buyer has nothing to pay and the seller nothing to receive,— any money for them because he was in debt for them, and just as the seller has no money to receive, the buyer has no money to pay. The volume of loans outstanding may fall, just as they rose previously, without there being any "inflow," "outflow," "creation," or "destruction" of bank credit. The claims against the —yet figures of brokers' loans fall unlucky speculators disappear when their creditors buy up their shares from them.

Fifth illustration,— To complete the exposition, the chain of operations may again be illustrated by an example. (Ledger balances are shown in Appendix A.)

—which show that customers' margin debts are settled mainly through forced sales,— *Monday.* Mr. A receives a demand from his broker to put up more margin because the securities held for him have depreciated in value. Mr. A decides to sell securities which realize $15,000. The shares are bought by Mr. B's broker on Mr. B's behalf.

Settlement takes place to-morrow.

—that brokers' loans "by others" fall through stock purchases by call money lenders,— *Tuesday.* Mr. B calls in $15,000 of the call loans he has outstanding. The broker who had borrowed these funds now borrows a bank loan in order to repay B. B pays the $15,000 to his broker who in turn pays it to A's broker as the price of the shares he bought from him. Mr. A has paid in another $1000 in cash to his broker. A's broker uses the $16,000 to pay back to his bank.

—and that brokers' loans by banks fall, when outside funds are paid in— On this day the volume of loans to brokers granted by the banks on their own account has diminished by $1000 only, whereas the volume of brokers' loans on account of others has diminished by $15,000. The margin debts of customers have diminished by $16,000.

It is unnecessary to give further examples of the transactions leading to the "liquidation of brokers' loans." The process is not really a very complicated one. It will suffice to add that it is also possible that B may ask for his call loan to be repaid before he decides to purchase shares. In this case loans to brokers from the banks for their own account will rise for the time being and those on account of others will fall. The volume of brokers' loans from the banks will fall again later when B buys the low-priced shares.

Brokers loans fall—

The fall in the total volume of brokers' loans following on a break in stock prices comes about essentially in three ways:

(1) speculators whose accounts are undermargined pay in what they can afford in order to maintain their positions;

(2) owners of bank deposits buy the shares sold at low prices by speculators who are forced to reduce their debts;

(3) owners of funds previously lent out as call money buy the shares sold at low prices by speculators who are forced to reduce their debts.

—when margin debtors put up more money through new saving which is deflationary in its effect on other markets;—

What is there to be said about these possibilities as regards their effects on the amount of purchasing power going to other markets?[4] In case (1) sums which would otherwise have become effective demand on the markets for goods are used to repay loans which brokers had previously borrowed from the banks; this will result in the disappearance of a certain quantity of bank assets and of circulating bank deposits. There will, of course, be a rise in excess reserves and therefore in the capacity of the banks to grant credit to other borrowers, but for the moment there will undeniably be a deflationary effect. This case is the real counterpart of the rise in loans from the banks to the brokers which had an inflationary effect on the markets for goods.

---

[4] I do not mean the psychological effects of the stock market crash but the direct effects of the repayment of brokers' loans.

—or when holders of bank deposits buy shares from the margin debtors, which mostly means the disappearance of idle balances,—

Case (2) can only be judged if we know how the bank deposits of the buyers of the shares would have been used if the share purchase had not taken place. It is possible, though not very probable, that funds will be withdrawn from the markets for goods in this case also.[5] It is more probable that the funds will come out of idle balances. If these now lead, through the share purchase, to the eventual wiping out of a certain amount of bank credit, there is no net deflationary effect. The raising of the excess reserves of the banks through the cancellation of these inactive deposits actually increases the potential supply of new credit in the future.[6] In case (3) where call loans are withdrawn in order to purchase shares, and shares are sold in order to pay back call loans, there is nothing which would have any effect either actual or potential on the effective demand in other markets.

—or when call money lenders buy shares from the margin debtors, which leaves the markets untouched

The analysis shows no valid conclusion can be drawn from changes in brokers' loans

58 The conclusions of the last nine sections are sufficient to shake all confidence in the significance of the statistics of brokers' loans. As brokers' loans can rise for so many different reasons, it is quite impossible to diagnose the situation merely on the basis of the aggregate figures for these loans. It remains impossible, no matter how perfect a correlation can be shown to exist between the volume of brokers' loans on the one side and the turnover of stocks, the level of stock prices or the velocity of circulation of bank deposits on the other. The most naive interpretation of all was that which said that brokers' loans represented credit tied up in stock

---

[5] Eiteman, if I do not misunderstand him, seems to be of this opinion. See *op. cit.*, *Journal of Political Economy*, p. 690.

[6] This is the only point, and a weak one at that, in support of those who expect a decline in brokers' loans to benefit "legitimate business." It is somewhat reminiscent of Till Eulenspiegel when somebody is glad that there has been a shrinkage of bank balances because then it is possible for them to expand again.

exchange transactions. But even rather more "enlightened" interpretations prove to be untenable when regard is had to the analysis of this chapter. Take, for instance, the contention that the total of brokers' loans represents the amount of funds that have flowed through the stock exchange into industry, or the idea that the truth lies somewhere in the middle, i.e., that brokers' loans represent funds which have flowed onto the stock exchange, and part of these funds flows out into "productive" markets and part is tied up. None of these arguments is tenable since a rise in brokers' loans does not necessarily warrant the conclusion that there has been a flow of funds onto the stock exchange.

Below is an attempt to draw up a list of the various kinds of operations which may lie at the back of an increase in brokers' loans. The list is undoubtedly incomplete but will nevertheless be sufficient for our purposes. In all cases it is assumed that somebody has bought securities on borrowed funds.

Ten types of operations leading to a rise in brokers' loans are summarized

This transaction may be connected with any of the following operations:

(1) industrial corporations have issued new shares, received money (bank deposits) for them and spent it on real investment;

(2) individual business men or firms, who had previously invested part of their funds in shares, have sold shares, received money (bank deposits) for them, and spent it on real investment in their own businesses;

(3) individuals, who had previously invested part of their funds in shares, have sold shares, received money (bank deposits) for them, and spent it on consumption;

(4) individuals, who have made capital gains as a result of the rise in share prices, have realized

their gains, withdrawn them in the form of money (bank deposits), and spent them on consumption;

(5) corporations have issued new shares but have used the proceeds immediately to grant loans to brokers;

(6) individuals or firms have sold shares from their holdings but have used the proceeds immediately for granting loans to brokers;

(7) corporations have issued new shares and have the money proceeds (bank deposits) in their accounts, for a few days, until their use in further financial transactions;

(8) individuals and firms have sold old shares from their holdings and have the money proceeds (bank deposits) in their accounts, for a few days, until their use in further financial transactions;

(9) corporations have issued new shares and leave the money proceeds (bank deposits) lying idle as liquid cash reserves;

(10) individuals or firms have sold shares from their holdings and leave the money proceeds (bank deposits) lying idle in their liquid cash reserve.

No inflow of funds in two cases.—

A real inflow of funds (money capital that has either been newly saved, or newly dishoarded, or newly created out of bank credit) has taken place in cases (1-4) and (7-10). In cases (5) and (6) there has been no inflow at all, or at least not as far as the end effect is concerned. (See §§ 54, 55, 56. Bank credit, for instance, which was created for the purpose of paying out funds to the sellers was, if they used it for granting loans to brokers, repaid and so disappeared again.) In cases (1-4) the funds flowing onto the stock market were spent on the markets for commodities; in cases (1) and (2) they were used for production, and in cases (3) and (4) for consumption. In cases (7-10) the funds flowing onto the stock market were not spent on the markets for goods; in cases (7) and (8) the money (bank deposits) continued to circulate in the financial sphere, and in cases (9) and (10) it went into the idle cash reserves of pessimistic hoarders.

—funds used for buying producers goods in two cases, for buying consumers goods in two cases, tied up in financial transactions in two cases and locked up in idle balances in two cases.

Nowhere are there any statistical data to show how the total volume of brokers' loans at any time is distributed over these ten items. To anybody with a sense of proportion, however, it would appear that cases (7) and (8), the tie-up of funds (bank deposits) in stock exchange transactions, cannot be responsible for more than an extremely small fraction of brokers' loans. Neither can it reasonably be held that cases (9) and (10), hoarding by pessimistic holders of money, are responsible for the whole or the greater part of brokers' loans as some writers seem to think. (This topic will be taken up in the next chapter.)

The smallest part is played by the absorption cases

A high official of the Federal Reserve System expressed only recently the following opinion[7]: "We are inclined to conclude that the best evidence on whether expansion of credit through an increase in security loans has a stimulating effect on business or is 'absorbed' by the stock market, is to be found in data on changes in business volume and in prices . . ." He proposes to investigate whether "the expansion in business [was or] was not in proportion to the expansion in credit if all brokers' loans are included in the credit figures." Here, then, brokers' loans on account of others are expressly included in the credit expansion, and if they are found not to have resulted in any business expansion they are to be regarded as having been absorbed by the stock exchange. The preceding sections have demonstrated that this point of view is untenable because an increase in brokers' loans on account of others than banks seldom means a further expansion of credit. Lending by the seller of the shares to the buyer, which finds expression in an increase in brokers' loans, can certainly not lead to a business expansion, but neither can it be regarded as being "absorbed by the stock exchange."

---

[7] In a letter to the present author dated 22nd July 1937.

To repeat once more our main conclusion: figures giving the sum total of brokers' loans tell us absolutely nothing about the absorption of credit by the stock market.

CHAPTER VIII

THE LIQUID FUNDS OF BEARISH SELLERS

59. The scare that an enormous volume of funds might be tied up in stock transactions was not taken seriously by many economists of repute. Their chief argument against this fear of absorption was that the "money work to be done" is not increased or not substantially increased by the turnover on the stock market, or that the effect of such an increase is minimized or compensated by the circumstance that the velocity of circulation of the funds used on this market is extremely high and, moreover, elastic. Some authors, however, pointed to another possible source of absorption: the absorption of liquid funds by bearish sellers of shares. The cause of absorption may perhaps be not the stock market turnover but the hoarding of sales proceeds by sellers who have withdrawn from the market.

Absorption of funds in securities transactions is considered negligible—

Thomas Balogh termed the absorption in stock transactions as "technical absorption"[1] and contrasted it with the absorption due to the hoarding of sales proceeds. He believed that the first "will never be altogether negligible" but, nevertheless, will be insignificant compared with the second.[2]

—in comparison to possible absorption through "hoarding" by sellers.

John Maynard Keynes, who is the most prominent of the adherents of the theory of absorption through hoarding, attached little significance to the theory of "technical absorption." Keynes treats the stock exchange turnover as a part of the "financial circulation", it is carried out by means of "business deposits B."[5] Their velocity "is so very high . . . that the *absolute* amount of the variations in the volume of money so employed cannot ordinarily be very great."[4] A rising turnover on the stock exchange may perhaps require more of these "business deposits B," but "on account of their very high velocity of circulation any necessary increase in them is easily supplied without much effect on the supply of money for other purposes."[5] There is then almost no technical absorption. "The main variation in the total demand for money for financial purposes arises . . . in quite a different way."[6] The important element in Mr. Keynes' theory is the effect of the stock boom on the liquidity preferences of many holders of money.

---

[1] Thomas Balogh, "Absorption of Credit by the Stock Exchange," *American Economic Review*, Vol. XX, 1930, p. 659.

[2] *Ibid.*, p. 660: "an incomparably more important parallel 'friction' in the outflow of circulating media to other markets results from the fact that many sellers will decide to use the proceeds of their sales to build up cash reserves or to leave them with their banks for later use."

60. Whether an individual will want to invest his liquid balances in securities, lend them out, or leave them in his banking account, depends, according to Mr. Keynes' theory, on the expectations of the owner of funds regarding the future development of security prices and interest rates.[7] There are many savers who do not take much account of things of this kind and keep savings deposits no matter what the state of the market. (Keynes calls these people the owners of "savings deposits A.") There are, however, others who hold sometimes securities and sometimes savings deposits. (These are the owners of "savings deposits

---

[3] *A Treatise on Money*, Vol. I, pp. 243 ff.

[4] *Ibid.*, p. 249.

[5] *Ibid.*, p. 256.

[6] *Ibid.*, p. 249.

[7] *A Treatise on Money*, Vol. I, p. 250; *General Theory of Employment, Interest, and Money*, p. 170.

B'' in Keynes' treatment) Anybody from among the latter group who at any time holds a substantial part of his wealth in his banking account, or in other words anybody who holds "savings deposits B," evidently does so because at current prices securities do not seem attractive to him The savings deposits B "comprise what we will call the 'bear' position " They are owned by "those who would normally be holders of securities, but prefer for the time being to hold liquid claims on cash in the form of savings deposits," because they expect "that securities will fall in cash value "[8] There obviously exists therefore a "difference of opinion as to the prospects of securities"[9] between people who buy securities at the prevailing prices and the "bears" who expect the prices to fall and therefore prefer to hold savings deposits

Owners of funds are said to choose between holding securities or bank deposits

Keynes goes on to describe four phases of the attitude of the market towards securities and savings deposits In phase I, bull sentiment becomes increasingly general; owners of savings deposits now prefer to buy securities; the sellers are not pessimistic either, but are probably merely more optimistic about other securities or about other outlets for their sales proceeds; the "savings deposits B" become "business deposits" and "income deposits " Thus "when the bullish sentiment is on the increase, there will be a tendency for the savings deposits to fall " This is a factor which contributes to the general upswing in economic activity, because the savings deposits were inactive deposits, whereas the business and income deposits are active accounts and consequently effective

When securities are bought with idle savings deposits, active checking deposits increase.

---

[8] *Treatise*, Vol I, p 250 Keynes uses the term 'bear' in a much wider sense than it has in stock exchange jargon where it usually refers to short sellers

[9] *Ibid* , p 251

purchasing power[1] The withdrawal of savings deposits in order to buy securities thus has "the same effect on industry as an increase in the supply of money"[2]

When market sentiment is divided, bearish sellers, it is said, turn active accounts into idle savings deposits,—

After the rise in security prices has reached a certain point, that is to say, following on the phase in which bull sentiment was fairly general, we come to phase II in which the sentiment is divided While the boom is still going on, some people begin to think that prices have already risen sufficiently high This group increases in number the higher the prices rise Thus *vis-à-vis* of the "bull" group there is now a "bear" group, that is a group who sell their securities without reinvesting the sales proceeds "And if security prices go still higher than this, then the volume of savings deposits will be actually increased," Mr Keynes concludes[3] Just as the "bull market with a consensus of opinion" turned savings deposits into active demand deposits the "bull market with a division of opinion" causes active demand deposits to become idle savings deposits And this has "the same effects as a decrease in the supply of money,"[4]

Phases III and IV both relate to a falling market On a "bear market with a consensus of opinion" there will, according to Keynes, be a general flight of funds into savings deposits The deflationary effect is obvious On a "bear market with a division of opinion" the situation reverses itself. Owners of savings deposits begin to think that the fall in prices has been exaggerated, or at least that prices have reached their bottom, and so they start buying and thus utilize their savings deposits again.

---

[1] Since English banks keep the same reserve ratios against deposits of all kinds, the lending capacity of the banks is not changed by a transfer of deposits from savings to checking account There is, therefore, nothing to compensate the increased velocity of circulation of all deposits The same thing happening in the United States would increase the required reserves of the banks and thus diminish their excess reserves If the excess reserves were not substantial, the consequent contraction in the lending power of the banks would in part compensate the effects of the increased velocity of circulation of bank deposits

[2] *Ibid*, p 253

[3] *Ibid*, p 251

[4] *Ibid*, p 253

The relevant phase for our discussion is phase II. For this relates to the period of advanced boom when security prices have risen so high as "to exceed the expectation of some 'bull' and so influence him to sell [illegible] for cash and join the 'bear' brigade."[5] The essential factor, so far as Keynes is concerned, is that this bear position, which gradually gains in strength, finds expression mainly in a rise in savings deposits. Demand deposits which had been created by new bank credit, and demand deposits which had constituted the active cash balances of firms and income recipients, are used by the bulls to make security purchases, and owing to the bear sentiment of the sellers, are transformed into idle savings deposits. It is in this process that Keynes sees the risk "of the Financial Circulation stealing resources from the Industrial Circulation."[6]

—thus, a prolonged stock market boom would lead to an increase in idle savings deposits at the expense of business

61. In the opinion of many practical bankers, and of others, who still hold views that were current fifty years ago (and also according to views set forth in many a textbook) the deposit of sales proceeds on savings account with a bank would not be at all in the nature of a deflationary act. The banks, it is argued, will be enabled to loan out "the funds deposited with them."

Such views presumably date from times when a deposit with a bank usually took the form of a deposit of coin or notes. The reason why these views still survive in the days of cheque payments is probably that any individual bank that receives the deposit of a cheque drawn on another bank actually does receive additional funds. If we look at the banking system as a whole, however, it is at once clear that when cheque payments are the rule the banks do not receive any additional funds when people "deposit" their receipts with the banks: all that takes place is a transfer of reserve balances and deposits from one bank to another. "Deposits" do not put any funds at the disposal of the banks, if all are taken together.[7]

---

[5] *General Theory*, p. 170.

[6] *Treatise*, Vol. I, p. 254.

It is true, contrary to old-fashioned views, that a switch of active funds into savings deposits is deflationary

It is undeniable therefore that depositing funds in savings account can exert a deflationary effect because of the switch from circulating deposits to idle deposits which is involved. And if "bearish sellers" deposit their sales proceeds on savings account, it may have "the effect of altering the quantity of money available for the Industrial Circulation."[8] But is it very probable that they will do this to any large extent?

However, it is questionable whether sellers do accumulate savings accounts,—

There is no direct statistical evidence either for or against this accumulation of savings accounts by bearish sellers. But if an examination were to be made of the origin of all savings deposits, it would, in my opinion, come out very unfavourably for the hypothesis that we are discussing. It would, however, be ungenerous to take the expression "savings" deposits absolutely literally. As is well known, to the chagrin of all those who have occasion to deal with banking statistics, money "saved" is often left on demand deposit, and, on the other hand, firms often hold part of their cash reserves on time deposit. Thus the hypothesis that the proceeds of the sales of shares are deposited on savings account will gain in plausibility if we also count under "savings deposits B" sales proceeds which are left unused on demand deposit. But as we shall attempt to show, there are reasons for thinking that even this interpretation of the hypothesis in question fails to give it the importance that has been attributed to it.

---

[7] In England the lending capacity of the banks is not changed when deposits are transferred from current to savings account because the same reserves are held against all deposits. In the United States a deposit on savings account would raise the excess reserves since savings deposits require lower reserve ratios: if the ratio against demand deposits is 20 per cent. and the ratio against time deposits 6 per cent., a shift of $100 from demand to time deposit would release $14 of reserves. This is capable of resulting gradually in new loans reaching a maximum of $70, still leaving a deficiency of $30 of active balances.

[8] *Treatise*, p. 254.

—or even idle demand deposits.

Yet another extension of Mr Keynes' hypothesis has, however, to be made: we ought not to impute the rise in "savings deposits B," which is assumed to result from high security prices, simply and solely to the sales proceeds of bears. Mr Keynes included a second source: current new savings which on account of the high prices of securities are put into savings account instead of being used to purchase securities.* It is, of course, quite impossible to find out whether the savers who have deposited their savings proceeds on savings account would have bought securities instead, if the level of security prices had been lower. Nevertheless, there is one "theoretical" consideration which may give us a clue. So far as small savers in the lower and middle income groups are concerned, it will be nearer the truth to assume the opposite of Mr Keynes' hypothesis; it may be assumed that such people, who would normally never have thought of engaging in stock exchange operations, become infected with the general speculative fever and use the funds, which they would otherwise have put in savings account, to buy securities. So far as concerns savings out of larger incomes or corporation surpluses, it is again safe to assume that the available funds will not

High stock prices might frighten off current savings from stock purchases and divert them into idle accounts.

This is unlikely because rising stock prices make small savers bullish—

---

* *Ibid.*, p. 267. "But in so far as the bears add the proceeds of their sales (*or of their refraining from buying securities with their current savings*) to the savings deposits, this uses up part of the new money" (italics mine).

—and large savers call money lenders.

be put in savings deposit with the banks, when the high money rates prevailing in the advanced stages of the speculative boom make it profitable to loan them out at call

The simultaneous rise of stock prices, brokers' loans and time deposits, in 1929, misled observers

62 Before presenting the evidence which speaks against Keynes' hypothesis of the hoarding of sales proceeds, a short summary may be given of such material as there is which might seem to lend support to the hypothesis. Mr. Keynes was confirmed in his opinion by the following facts: In the United States from 1927 to 1929 stock prices rose, and so did brokers' loans and time deposits. This common movement seemed to Mr. Keynes to represent an unmistakable correlation. He took it as a "perfect statistical test"[1] of the proposition that a bear-bull position had developed of the kind in which the bulls borrow funds which the bears deposit on savings account.

Several points may aid in evaluating the correctness of this interpretation. When a bull speculator uses either his own money or money borrowed from existing funds in order to buy shares from a bear, and the bear deposits the proceeds on savings account, demand deposits will fall and time deposits will rise. This is not what happened in the United States in the period in question, for demand deposits rose along with time deposits and both stopped rising at the same time. If a bull speculator borrows money from a bank in order to buy shares from a bear and the bear puts his sales proceeds on savings account with his bank, demand deposits will rise only for a few hours or a day, that is to say, until the time when the sales proceeds are deposited. Thus the volume of demand deposits will remain unchanged while time deposits rise. This does not conform with events in the United States either, for as has already been remarked the volume of demand

Active demand deposits did not fall but increased too, deposits did not remain constant during the time when time deposits were rising, they rose simultaneously, even if at a slower rate [2]

---

[1] *Ibid.*, Vol II, p 195

Thus, no existing circulating media were withdrawn from the "industrial circulation" by the piling up of savings deposits, and not all of the new circulating media deriving from bank credit were turned into savings deposits Since demand deposits also rose, despite the rise in savings deposits, the most that might be said is that only part of the continual expansion of bank credit led to an increase in the active circulation while a large part was placed on savings deposit where it was inactive But even this cannot be proved First of all it has to be remembered that in the United States transfers to time deposit, owing to the lower reserve ratio held against the latter, release bank reserves, thus making it possible for the credit expansion to go further than would otherwise be the case Furthermore, it is very doubtful whether the piling up of savings deposits really did mean that active circulating media became idle The following consideration is evidence to the contrary

—and their increase was not even impaired by the growth of time deposits,—

---

[2] The data given by Mr Keynes are not reliable since they are taken from the figures of only those banks which issue weekly reports, instead of from the figures of all banks The weekly reporting banks are not for all purposes a representative cross section of the entire banking system Mr Keynes' statistics (*Treatise*, Vol II, p 190) show a rise of 2 5 per cent in demand deposits from 1926 to 1929 and a rise of 21 5 per cent in time deposits The figures for all banks are, however, as follows

	Demand Deposits (Adjusted)	Increase or Decrease	Time Deposits.	Increase or Decrease.
1926	21 707	—	25 110	—
1927	22 462	+755	26 813	+1703
1928	22 738	+276	28,933	+2120
1929	22 744	+ 6	28 795	− 138

These figures which are all in millions of dollars and represent the position on 30th June each year, are based on the Reports of the Federal Reserve Board and have been taken from Lauchlin Currie's *The Supply and Control of Money in the United States* (pp 33 and 70) Demand deposits show an increase over the whole period of $1037 million or 4 78 per cent, and time deposits show an increase of $3685 million or 14 67 per cent

A credit expansion, part of which leads to the piling up of idle savings deposits, must lead to a substantial decrease in the average velocity of circulation of total bank deposits. One of the most important facts in a verification of Keynes' hypothesis would, therefore, be a fall in the velocity of circulation of bank deposits. In reality, however, their velocity of circulation neither declined nor even remained constant, but rose sharply. The rise was steeper and more general than could be explained perhaps by reference to stock exchange operations and related transactions. What then was the rest of the explanation? Evidently a substantial part of the rise in the velocity of circulation was due to a change, which was observable in that period, in the attitude of firms toward various forms of liquid assets: firms began to hold a smaller part of their liquid funds in the form of demand deposits than had been customary in the past. Many firms lent out their cash balances at call, and others (often upon request of their bankers) held time deposits instead of demand deposits. Both factors led to an increase in the velocity of circulation. In the one case cash balances, which had previously been held as idle reserves, became working balances of other firms, and in the other case idle cash reserves were removed from demand deposit and placed on time deposit. This had the obvious effect of increasing the average velocity of circulation of demand deposits, and, if the increased lending capacity of the banks was used to create new demand deposits, the velocity of circulation of all deposits was bound to be raised.[3]

—because this growth was due to a switch of idle balances,—

—as can be seen from the increased velocity of circulation

According to my hypothesis the growth of time deposits and the rise in the velocity of circulation can be explained as interdependent parts of one process. Mr. Keynes' hypothesis leaves the fact of the rise in the velocity of circulation without explanation; indeed, this rise in the velocity of circulation may be regarded as disproving his hypothesis. In Mr. Keynes' hypothesis the rise in time deposits represented the transformation of active demand deposits into idle time deposits, hence a hoarding process. In my hypothesis there was a substitution of time deposits for inactive demand deposits with a consequent release of reserves enabling the banks to create active demand deposits, hence a dishoarding process.

---

[3] Cf. Woodlief Thomas, "Use of Credit in Security Speculation," *American Economic Review*, Vol. XXV, supplement 1935, p. 35: "The supply of funds came . . . in part from a shifting of deposits from the demand to the time category, which released reserves . . . ."

The evidence points to dishoarding, not to hoarding.

The suggestion that the bears may have hoarded their sales proceeds in the form of idle demand deposits has no more secure a foundation than the savings deposit hypothesis. For if demand deposits had been kept idle there would have been a diminution of the velocity of circulation. The sensational rise in the velocity of circulation in that period is so notorious that the statistics need not be reproduced here.

No statistics are necessary to prove that there did exist a bear position. We know for a fact that there were many people who sold their shares because they thought the prices had been driven too high. But there is nothing in the available statistics to show that these sellers hoarded a substantial part of their sales proceeds and so took money away from the "industrial circulation."[4]

There were bears, but they did not hoard.

63. Statistical proofs are never of any value, and statistical disproofs are seldom so, unless they can be rationalized by theoretical analyses of the causal relationships. We have shown that no *statistical*

---

[4] Cf. Charles O. Hardy, *Credit Policies of the Federal Reserve System*, p. 172: "It is to be emphasized, however, that there is not the slightest evidence that there was any serious locking up of deposits in speculation in 1928-29."

evidence could be found for the alleged hoarding by bears who sold out. It remains to give the *reasons* why it is improbable that sellers of securities, during a stock market boom, will hoard their sales proceeds.

It is no doubt true that anybody who is expecting a break in share prices will prefer to be "liquid." But it is not true that the only way to procure this liquidity is to hold cash or bank deposits, or that it is in fact procured in this way. Loans which are perfectly secure and can be recovered at any time are as good as cash for satisfying the demand for liquidity.[5] Call loans are loans of this kind, and even if they are not defined as money they are often regarded as just as liquid as money. Sellers of shares who want to wait for share prices to fall can satisfy their desire for liquidity perfectly well without cash or bank deposits, by lending their funds at call.

Bearish sellers regard call loans as just as liquid as money,—

Low interest rates encourage the holding of higher reserves of idle cash. A rising stock market means that corporations are able to obtain capital more cheaply. This may have led some people to suppose that corporations, with money so cheap, will most probably hold higher cash reserves. But while it is true that the high stock prices mean cheaper borrowing facilities for corporations, it would be quite wrong to suppose that for this reason the holding of idle funds will not cost much. The cost depends not on the conditions on which one happened to obtain something but on the alternative ways of using it (i.e., "opportunity costs"). Even if the corporations had obtained their new funds almost gratis, they would still consider that it "costs" them 6 or 8 or 10 per cent., according to the prevailing rates on call money, if they refrain from loaning out their funds at call.

—and highly profitable too

---

[5] F. Lavington put strong emphasis on this point in his explanation of "the price of pure waiting, the net rate of interest." See *The English Capital Market*, pp. 62 ff.

When holders of securities are induced to sell out because they think that share prices have been driven too high, these sellers will at the same time have the incentive to lend out their sales proceeds because of the high interest rates which bulls are prepared to pay for call loans. The bearish seller who operates on a large scale will not leave his sales proceeds on savings deposit, nor will he leave them in his checking account; he will place them at the disposal of the stock market. What this comes to is that the bear who sells lets the bull who buys owe him payment, and he does not therefore receive any funds to hoard.

The bearish seller loans to the bullish buyer with no funds involved or hoarded

The concept of "liquidity preference" is confusing unless it is constantly remembered that opinions fluctuate concerning the objects which are suitable for satisfying the desire for liquidity. If liquidity preference is by definition related exclusively to cash and bank deposits, it is wrong to conclude that a strengthening of the bear position will raise liquidity preference in this narrow sense, for the supply of perfect "liquidity substitutes" in the form of sight claims against bulls might at the same time be increased so much as to leave the net demand for cash and bank deposits unchanged. If, however, we define liquidity preference in a wider sense so that it relates to all objects which are considered by individuals and firms to be just as liquid as cash and bank deposits, then it is certainly true that a strengthening of the bear position will involve a raising of liquidity preference in this broad sense, but in this case it is wrong to put the liquidity function against the available quantity of cash and bank deposits since the supply of "objects of liquidity preference" is not an independent variable. If the bear position is described in terms of a demand for liquidity, then it has to be recognized that the bull position, through its borrowing, brings

If the bear position constitutes demand for liquidity, —

—the bull position provides the liquid assets through its borrowing.

with it a supply of liquid assets: it creates "liquid" sight obligations.[6]

64. In short, it is anything but probable that the stock boom will lead to the piling up of idle cash reserves by sellers of securities. It was pointed out in the previous chapter that a substantial part of the rise in brokers' loans was to be interpreted as lending by the sellers to the buyers. Thus we have no use for Mr. Keynes' interpretation according to which brokers' loans were employed to finance the holding of cash by the sellers.

Incidentally, there are passages in Mr. Keynes' *Treatise* which fit in with my own explanation. He says for example: "But the fact that the technique of the New York market allows an important proportion of the 'bear' position to be lent directly to the 'bulls' without the interposition of the banking system . . . facilitated immense fluctuations in the magnitude of this position without the disturbance to the Industrial Circulation."[7] In other words the bear position consisted here not in the piling up of savings deposits or idle cash balances, but in the lending of the purchase price to the buyer. In this case, however, the bear position would not be deflationary.

---

[6] Mr. Keynes' hypothesis of the "bull-bear position" and the "speculative motive" for holding cash, is a corner-stone of his *Treatise* and of his *General Theory*. "When stock prices have risen beyond a certain point, the machinery of the 'two views' functions" (*Treatise*, Vol. II, p. 195). "The individual who believes that future" security prices will be below the prices "assumed by the market has a reason for keeping actual liquid cash" (*General Theory*, p. 170; in the *General Theory* the argument runs, of course, more in terms of future interest rates than in terms of future security prices). An excellent critique of the Keynesian hypothesis is to be found in an article by L. M. Lachmann, "Uncertainty and Liquidity Preference," *Economica*, Vol. IV, New Series, August 1937.

[7] *Treatise*, Vol. II, p. 196. The clause "without interposition of the banking system" means without encroaching on bank reserves and relates to the loans granted to brokers by the banks "on account of others."

it would involve neither a rise in savings deposits nor an increase in the "financial circulation" This is equivalent then to Mr Keynes' unconcernedly discarding his own hypothesis [8]

It would, of course, be possible for both kinds of bear position to exist side by side Many sellers who think stock prices are going to fall may loan out their money while other sellers may keep it in cash or on savings deposit The latter possibility becomes more plausible if we assume that many of the sellers who are nervous about the high stock prices are people of small means, who neither have the notion that it is possible to lend money at call nor have the connexions which are necessary for carrying out transactions of that kind But this would be the exception rather than the rule, as is clear from the fact that it is precisely the small man who holds onto his stocks longest, and that it is the experienced speculator and the capitalist who sell out at high prices Experienced capitalists, however, have better ways of using their funds than to put them into a savings account (or a "thrift pass book") at a bank [9]

"Small bears" might hoard while "big bears" loan,—

—but usually the small speculator holds on longest to his stocks

If a classification were made of the various uses to which people put the sales proceeds from their stocks sold while prices were still rising, the item "deposits on savings account" would probably be almost negligible Leaving out the item "purchase of other securities" (which is done with the brokerage deposit and, thus, requires neither cash nor credit) the classification would contain the items "purchase of means

---

[8] Professor John H Williams has also remarked on Keynes' inconsistency In his article on "The Monetary Doctrines of J M Keynes" in the *Quarterly Journal of Economics*, 1931, Vol 45, p 569 he said "But, so far as I can see the savings deposits were in effect never made if they were loaned out again by their holders the holders cannot have them and not have them at the same time"

[9] See also Keynes, *Treatise*, Vol I, p 252.

The liquidity preference of most bearish sellers is exercised by making call loans and by repaying debts.

of production" and "purchase of consumers' goods," followed by "short term lending" (loans to brokers), and finally "repayment of debts." Among the sellers who do not buy anything with their sales proceeds, the most important groups, in the phase of rising stock prices and high call rates, are the capitalists who lend their funds, and speculators who pay back funds which they had borrowed previously. The first group takes advantage of the high interest rates on the money market by lending and is liquid without hoarding; the second group becomes more liquid by paying back debts and has nothing to hoard.

The period of rising stock prices and high call rates is thus, even if there is a division of opinion about the future course of stock prices, not a period of heavy hoarding by those who sell stocks. In the advanced stages of the boom there may perhaps be a few cautious small investors who get out of the market in time and acquire savings deposits, but their action is undoubtedly outweighed by that of other small investors who, as a result of the long lasting rise, succumb to the temptation and use their savings deposits to purchase securities.

Only after the crash, with margin debts largely repaid and call rates low, will liquid funds of bearish sellers accumulate.

When the stock crash finally comes, when bull sentiment has vanished and stock prices fall, there will first of all be sales which again do not lead to the piling up either of idle cash reserves or of savings deposits: the sales which take place at the time of the crash consist predominantly of the selling out of accounts that became undermargined. These unfortunate sellers do not receive any funds that they could hoard. At this stage call rates are still attractive enough to provide a profitable outlet for the funds of those sellers who have any funds to receive. It is not until the bear market has "settled down" to a general pessimistic feeling, a low level of brokers' loans and low call rates, that the piling up of idle bank deposits described by Mr. Keynes takes place to any considerable extent.

The various considerations advanced in this chapter make it appear improbable that the speculative boom on the stock market will lead in any substantial measure to the absorption of circulating media or bank credits through the induced demand for liquidity on the part of bearish sellers. It is absolutely impossible to ascribe the heavy rise in brokers' loans during the boom entirely or in large part to the piling up of idle bank deposits by bearish sellers.[16]

The high brokers' loans were not due to idle funds.

---

[16] Professor Howard S. Ellis accepts Keynes' hypothesis. See *op. cit.*, p. 386: "In any event, the conscious retention of funds in idleness, whether described accurately in terms of neutralized bank reserves or more loosely under the aspect of brokers' loans or the appearance of weaker hands, constitutes a demonstrable ground for credit absorption." Professor Ellis has taken the "retention of funds in idleness" as given and has not examined the facts to see whether it is a phenomenon which really does accompany the stock boom.

CHAPTER IX

CAPITAL GAINS, SAVINGS AND A VICIOUS CIRCLE

65. In the course of the previous chapters we searched every nook and cranny of the stock exchange to see whether money, or capital, or credit might be hidden away there instead of passing straight on into the hands of producers who want it for investment purposes.

It may be useful to recall very briefly some of the problems that have so far been investigated. Among the questions we tried to answer were these: Do speculators need to hold large idle balances? Is it necessary for stockbrokers to keep large bank balances in order to deal with a heavy turnover? Are large sums of money tied up in stock exchange transactions in the process of passing from hand to hand, or from one banking account to another, when speculators carry out a series of selling and rebuying operations? Do capitalists accumulate large sums in their banking accounts when share prices rise unduly high? Do speculative gains lead to wasteful spending and hence to capital consumption? Do speculative losses cause funds permanently to disappear? These and many other problems have already been examined.

Many billions of dollars reported as missing

Now Mr. Harold G. Moulton tells us that in the years 1923-29, many billions of dollars worth of "savings available for investment" disappeared. The amount lost is estimated at from three to four billion dollars per annum in the early years and as much as

10 to 11 billion dollars per annum in the later years of that period.[1]

This is indeed an enormous sum. It represents such a large proportion of the total circulation of bank money that the idea of such a gigantic "volume of money flowing into investment channels," and, according to Moulton, never reaching the hands either of producers who want to invest or of the public who want to spend or hoard, is quite startling. It needs to be inspected more closely.

65. How did Mr. Moulton arrive at his estimate of these lost billions? He made an estimate of the national income, subtracted from it the amount spent on consumption, and called the difference "savings." He then estimated the amount invested in "new plant and equipment" and discovered that much more had been saved than had been invested.

National income minus consumption was called "savings,"—

The reason why other statisticians did not discover this remarkable deficit, was that they used a different method of estimating the national income. The method they adopted was simply to add together consumption and investment. Mr. Moulton, however, calculated the national income separately by another method, and then examined the figures to see if all of the income was consumed or invested. And so he discovered the remainder.

The savings, that is the national income minus consumption, were available for investment. Actually, however, they were not invested, because, as Mr. Moulton explains, producers in general are rather cautious and are anxious to avoid over-investment.

—which were not all invested,—

---

[1] Harold G. Moulton, *The Formation of Capital*, The Brookings Institution, Washington, D.C., 1935, p. 146. Also *Income and Economic Progress*, p. 44. It should be noted that what is 10 billion dollars in the American language is 10 milliard dollars in English.

This means that they do not want to expand their productive equipment faster than the demand for consumers' goods expands. In consequence a part of the savings was left uninvested.

In Mr. Moulton's own words: "the supply of funds available in the capital market increases faster than the flow of money through consumptive channels; and yet at the same time . . . the amount of new plant and equipment does not increase appreciably faster than the demand for the goods which such capital can produce. The question, therefore, arises, Where do the funds rendered available in the capital market go if not into the building of excess productive capacity?"[2] and "When the volume of money savings is in excess of the requirements for new capital construction, what becomes of the excess?"[3]

—because they exceeded investment demand.

It is alleged that these "excess savings" were neither invested, nor consumed, nor hoarded,—

The funds seeking employment are not invested, nor are they consumed, nor are they hoarded.[4] What then does happen to them? "They may be loaned abroad," or, and this is the main point, "They may be used in purchasing securities already in the markets, and be absorbed in bidding up the prices of such securities."[5] Thus the "excess savings" were "absorbed" or "dissipated" in "bidding up the prices of outstanding securities."[6]

—but absorbed in bidding up security prices.

67. The way in which the "money savings" or the "investment money" are supposed to be "absorbed" by a rise in stock prices is not at all clear. If a billion dollars has been used to buy existing securities

---

[2] *The Formation of Capital*, p. 140.

[3] *Income and Economic Progress*, p. 44.

[4] The hoarding possibility is reserved expressly for the depression and it is denied that it is relevant to the upswing. See *The Formation of Capital*, p. 157, and *Income and Economic Progress*, p. 45.

[5] *Income and Economic Progress*, p. 44.

[6] *The Formation of Capital*, p. 151.

we may search all the alleged possibilities of absorption, but *somebody* must always have the billion dollars: it may be the sellers, or the brokers, or a second set of sellers, or a third set of sellers, and so on. In any case somebody must have them unless they have gone out of circulation through the repayment of bank debts. But nothing of this has anything to do with stock prices. If stock prices were bid up very high, the buyers would get fewer stocks for their money, but one billion dollars remains one billion dollars no matter whether the buyers receive 20 million shares or only 10 million shares for them. If in the absence of the rise in stock prices the billion dollars would have bought 20 million shares, but in consequence of a doubling of stock prices they buy only 10 million shares, what sense is there in talking about half a billion dollars being "absorbed"? How much of the billion is invested, how much is consumed, how much consciously hoarded, and how much is tied up in carrying out stock transactions, are all serious problems. But it is meaningless to ask how much was "absorbed" in "bidding up the prices."

Must it mean absorption of funds if one gets fewer shares for one's money?

The rise in stock prices is, however, very closely connected with Mr. Moulton's absorption theory. For if we examine the method of calculation which gave the remainder of uninvested savings, we find that we are not really dealing with "money savings" at all, but that, in estimating the "national income," the capital gains (i.e., the realized appreciation of stock values) were counted as part of this income whereas they were not counted in the estimate of investment. We see then that the capital gains were not really lost, or at any rate not to the people of the United States, but only lost in the shuffle by Mr. Moulton.

Mr. Moulton counted the capital gains as part of the national income. Any statistician or economist has a perfect right to do this, particularly when dealing with problems of taxation and of equity in the tax system &c But if we want to use the resultant estimate of the national income for estimating the amount of capital formation we have to be wary Capital appreciation cannot *be* invested because it has already *been* invested Capital appreciation, no matter whether it has been realized through the exchange of property between different persons or whether it only exists in the form of mere "paper profits," is nothing else than the higher valuation of past investments. These changes in the value of past investments may lead the owners of the investments to consume more or less of their current money income (i e , income not including the change in valuation of capital assets), but the changes in value of the assets of the community as a whole cannot in themselves be either consumed or saved or invested If we want to count the increase in the value of assets as income, we must, of course, consider it as *invested* income In other words, if we count changes in capital values as part of the national income, we must count the "capital formation" of the relevant income period as the difference between the total of capital values at the beginning of the period and their total value at the end of the period For most economic problems this does not have much sense, and for that reason appreciation in capital values, or capital gains, are not usually counted as part of the national income in considering questions of capital formation

If capital gains are counted as part of the national income, it must be as part of invested income

Such "saved income" does not constitute available money savings

Mr Moulton is obviously the victim of looseness of language For after the capital gains had become "income" and after the income (minus consumption) had become "saved income," the "saved income" was simply and inconspicuously translated into "money savings"[7] and then into "available investment money."[8]

The effect of this confusion of terms may be made clear by some examples. Let us assume that Mr. A saves $1000 and buys shares for this amount from Mr. B. Mr. B consumes the whole of the sales proceeds. While it is now quite clear to us that Mr. B has consumed what Mr. A saved so that there is no *net* saving, Mr. Moulton would go on to ask what the shares cost Mr. B when he bought them. And if Mr. B had obtained them at one time for only $400, Mr. Moulton would at once declare that there had been a capital gain of $600. And these $600 would be "saved income" because, in addition to the $1000 saved by A out of his income, B received an "income" of $600. Only $1000 was consumed, however, so that $600 must have represented net saving, but are these $600 really available to Mr. B or to anybody else as "money savings"? Surely not. Mr. B received $1000 and spent the entire amount. Nobody has the $600 in the form of "available investment money."

Capital gains are not money income to society,—

—and cannot be consumed or invested

Now let us vary our example by supposing that Mr. B, who receives the $1000 "money savings" from Mr. A, invests the whole of it in his business by buying new plant and equipment. For income tax purposes and for Mr. Moulton's statistics Mr. B's capital gains must still be put at $600 as before. From our standpoint $1000 would have been saved and $1000 invested in this case, but Mr. Moulton would add the $600 "income" of B to the $1000 saved income of A, and would then hold that only $1000 of the $1600 "investment money" had actually been invested. The missing $600 would be said to be "absorbed."

---

[7] *Ibid.*, pp. 140 and 141.

[8] *Ibid.*, p. 143.

68. The case is seen in all its crudity if we suppose that the seller of the shares uses the whole of the sales proceeds, i.e., his original investment plus capital gains, for purchasing other securities and in this way creates further capital gains. Then total "income" will rise with every additional transaction that takes place, and, according to the Moultonian method of calculation, the total of "excess money savings" that are absorbed will rise in a "vicious circle."[9]

Let us assume that A has saved $1000 and that he buys shares from B. B uses the whole of the $1000 to buy shares from C, C uses the money to buy from D, D from E, E from F, and F finally invests the $1000 in his business. An adherent to the theory that money is temporarily absorbed in stock transactions would say that the $1000 was absorbed from the time when the shares were purchased by A to the time when F used it for purposes of real investment. (I have tried to show that even this would not be the case if all of the transactions of Messrs. B, C, D, and E were settled through their brokerage deposits.) But what would Mr. Moulton say? If Messrs. B, C, D, E, and F had all paid $400 for their shares when they bought them, they would each make a capital gain of $600. According to Mr. Moulton, there would be $3000 of "absorbed, dissipated money savings." For he would calculate that apart from

Repeated security transactions may create a "vicious circle" of capital gains—

---

[9] *Ibid.*, p. 148. The "vicious circle" is described in the following way (pp. 146-50): "The enormous rise in security values generated a rapid growth of monetary income. . . . Income in the form of capital gains is available like any other income, either for consumptive expenditures or for new investment. . . . When such money was reinvested it served to push up security prices anew and thus to make possible another harvest of money income—to be once again invested in the security market 'gusher.'" This verbatim quotation is an insurance against any possible accusation that Mr. Moulton's theory has been reproduced here in too crude a form. Moulton's argument has of course been criticized before by other authors. See, for example, Henry Hilgard Villard, "Dr. Moulton's Estimates of Saving and Investment," *American Economic Review*, Vol. XXVII, 1937, pp. 484 ff.

the $1000 of A, the $600 income of each of Messrs. B, C, D, E, and F had been available for investment, making a total of $4000. $1000 of this sum was used for "new plant and equipment." An amount of $3000 "excess money savings" would thus appear to him to have been absorbed "in bidding up the prices of outstanding securities."

Mr. Moulton's theory boils down to the following: one calculates the capital gains due to rises in security prices, calls them income, and then complains that this income is absorbed in rising security prices. The "vicious circle" which Mr. Moulton thought he had discovered turns out to be simply one of his own reasoning.

—and capital gains are "absorbed" by definition

CHAPTER X

A DIGRESSION ON INTERNATIONAL SPECULATION

International transactions are treated differently from domestic ones, –

69. We are all familiar with the important rôle assigned to national boundaries in the analysis of economic matters. Trade in commodities, loan transactions and transfers of property between the citizens of different countries are usually treated separately, and from quite a different angle, from the same economic relationships between citizens of one and the same country. It is natural then that we should usually think of transfers of securities between domestic holders and foreign holders as being different from transfers between co-nationals. Incidentally, it would be advantageous for purposes of analysing economic relationships if we were to drop the habit—much fostered by nationalistic propagandists—of talking about actions of "this country" and the "foreign country," when what is meant is the business operations of citizens of the countries concerned.

The rôle played by national boundaries in the existing body of economic doctrine hinges on two different points. The first is the view that international trade functions according to certain special laws of its own, a view which has led to the belief that the laws governing exchange in general are inapplicable to international exchange. The second point consists in a value judgment according to which the welfare or wealth of communities separated by state boundaries is to be evaluated in a different manner, and the exchange between two nationals of different countries has to be considered in the light of whether it is "advantageous" to the country concerned. The second point is not open to dispute on scientific grounds, because the purpose of science is to analyse interrelationships independently of value judgments and merely to formulate propositions which apply, no matter what system of political or ethical values may be introduced. The first point reduces itself to the proposition that in international trade certain conditions are present which are not present in the case of trade between nationals of the same country. The most important of these conditions are obstacles that are placed in the way of international trade by state intervention, e.g., restrictions on immigration, import restrictions, currency and credit manipulation. What has made problems concerning financial transactions between countries increasingly complicated is the special techniques of manipulating the monetary and credit system which have been developed to cope with various pseudo-problems of international monetary theory. I am thinking here mainly of the famous international transfer problem.[1]

—partly because of value judgments—

—partly because of obstacles to international transactions,—

—which are most often due to state intervention

Financial journalists find something to criticize in every possible aspect of international capital movements. Every investment abroad—even when it yields profits—is held guilty of robbing industry at home; every investment by foreigners—even if it does not always yield profits—is denounced on the grounds that foreigners are getting hold of too much financial control. Objections are raised both against the citizens of the home country who "gamble their capital away"

International capital movements arouse much critical comment on foreign stock exchanges and against speculation by foreigners who carry profits away from the home stock market

---

[1] On the transfer problem see my articles, "Wahrung und Auslandsverschuldung," *Mitteilungen des Verbandes osterreichischer Banken und Bankiers*, Vol 10, Vienna 1928, pp 194 ff, "Transfer und Preisbewegung," *Zeitschrift für Nationalökonomie*, Vol I, Vienna 1930, pp 555 ff, and "Theorie der Kapitalflucht," *Weltwirtschaftliches Archiv*, Vol 36, Kiel 1932, pp 512 ff

Here we can only make a few brief remarks on these views If there were no questions of income distribution involved, we should be able to say at once that the investment of capital in the most profitable[2] uses, no matter whether at home or abroad, can never be harmful to the collective well-being of the "economy" concerned But it is practically impossible to avoid these questions of income distribution in considerations of this kind, and it is then impossible to find an "index of welfare" which is free of value judgments or which is unconnected with political aims As regards the gains or losses that are made in international speculation, all that we can say is that the chances which domestic owners of capital have of making profits or losses on foreign stock exchanges are fundamentally neither smaller nor greater than the chances which foreign owners of capital have of winning or losing on the stock exchange of "our" country

70 There are, however, two objections against international speculation and international lending to stock exchanges, which merit closer examination

Objections are raised against an outflow of funds for speculation abroad

The first of these objections runs in the following terms Even if we are assured that the funds placed at the disposal of the stock exchange really do flow into industry and so are neither lost nor absorbed nor held up on the stock exchange, it must be admitted that when funds are used for speculation abroad it is not industry at home that receives them

This is not necessarily so The funds which flow to a foreign stock exchange are not under all circumstances taken away from home investment, for the reason that stock exchange speculation is not always limited to "domestic" securities. It is perfectly conceivable that short-term funds belonging to Germans (prior to the introduction of capital punishment, of course) may be employed on the New York securities exchange, and if there is an active demand for German securities on this exchange new issues may be floated for German account. This process—"short-term lending to foreigners" accompanied by simultaneous "long-term investment by foreigners"—is not only conceivable but is an everyday occurrence, and the extent to which money goes abroad in the form of stock exchange loans and comes back as long-term investments is not small as can be seen from the statistics of the capital exporting countries (e.g., the pre-depression statements of the balance of payments published by the United States Department of Commerce). Of course, it need not happen that the long-term investments will be made in just the same places as those from which the short-term funds came. The money capital which flowed from the German money market to the New York securities markets may be invested in South American stocks. It all depends on the relative earnings prospects. In principle it is no different from the case where stock exchange credits originating in Sussex are used to finance industry in Middlesex: industrialists in Sussex might then complain that lending on the stock exchange had taken money capital away from them. If industry in Sussex had previously been accustomed to receive a steady flow of money capital and this capital started to flow to other places, then the volume of production in Sussex would most probably be affected: this would, however, be not because the

---

[2] The profitability of an investment includes, of course, an allowance for the risk element

Money capital loaned out to foreign security markets may return—

—as sales proceeds from domestic securities sold abroad,—

stock exchange had greater powers of attraction but because the stock exchange estimated that earnings prospects were better in Middlesex than in Sussex. To extend the example again to the case of larger geographical areas: it would not be the New York Stock Exchange which competed with German industry, but South American industry which was able to attract German funds via the New York investment market.[3]

—or as sales proceeds from exported capital goods,—

If the funds which flowed onto a foreign stock exchange do not return in the shape of long-term investment by foreigners, they will sooner or later return in the form of a demand for goods or services. It is not, of course, quite immaterial which one of the two things takes place. In the one case the money capital is made available to a domestic producer who is thereby enabled to undertake investment and may buy machines, for example. In the other case the money capital goes to a foreign producer who also procures machines. Thus the new machines will be abroad rather than at home. However, they may be bought from the same factory. And from the point of view of the factory which produces the machines it may be the same whether an order comes from home or from abroad. But it is an old proposition of international trade theory that the money may "come back" from abroad in the form of payment for entirely different things, e. g., consumers' goods or raw materials, or through a decline in imports. In this case the machine factory in our example will not get an order. Furthermore, the possibility that the "return trip" of the money from abroad may be

—or any other exports —

---

[3] If the funds from New York are used by South Americans to buy German-made capital goods and if later the South American firms prove to be insolvent but the New Yorkers to whom the original loans were made are solvent, Germans will have financed the sale of their own goods without loss to themselves.

delayed, and that the circulation may in consequence be reduced for many months, is the one circumstance which gives the objection its justification though less than is usually assumed.

—but its return may be delayed

71. The second objection, in contrast to the first, concerns the import of capital. It is directed against the effect of the inflow of short-term foreign capital in strengthening the tendencies towards a speculative boom on the home stock market. The boom which has been nourished by the foreign funds is, it is said, bound to break when the foreigners withdraw their funds. This is true whether the foreign funds have been used for stock purchases or for stock exchange credits. The withdrawal of stock exchange credits exerts a depressive effect on the securities market. The bulls find it hard to finance their holdings any longer and thus try to liquidate them by selling. The fact that some speculators or investors, whether foreigners or nationals, suffer capital losses in this way is as such of minor importance (in view of what has been said in Chapter V). If, however, the withdrawal is capable under certain circumstances of producing a setback in the volume of production this is a more serious problem. The credits lent to the stock exchange by foreigners did not remain on the stock exchange. They flowed into industry. The withdrawal of funds from the stock exchange cannot take the money capital that has once been invested in production out again, it has been absorbed in capital goods. The outflow of money capital cannot therefore proceed at the expense of the existing capital equipment; it can only be financed out of new supplies of money capital which are consequently prevented from entering into production. This may make it difficult for the producers' goods industries to sell their pro-

Objections are also raised against an inflow of foreign funds,—

—which may first feed the boom and later, when withdrawn, starve the capital market,—

—thus precipitating crash and depression ducts unless they are able to find a market in those places abroad to which the money capital recalled has flowed.[4]

The withdrawal may reduce both the supply of money and the supply of money capital

The sudden withdrawal of foreign funds is usually objected to most strongly on the grounds of its deflationary effects. It is true that at least in the short run the quantity of circulating media will be reduced. In any case the sudden withdrawal will cause a diminution in the available supply of loanable funds. Since the level of production is sensitive to diminutions in the supply of money capital it is understandable that a "short visit" of foreign capital will not be particularly welcome. After a period of abundance of money capital current investment would suddenly be reduced to a smaller scale and it is likely that this would be accompanied by wide disturbances and real losses.

Monetary authorities try sometimes to offset the flow of foreign balances;—

Central banks have repeatedly made the attempt to follow a monetary policy which is more or less consciously aimed at compensating such sudden inflows or outflows of speculative foreign funds by measures of credit policy. Quite recently[5] this "offsetting" policy has been attempted systematically by the United States Treasury in its "gold sterilization" programme. The gold which was imported in connexion with the inflow of speculative foreign funds was bought not with newly printed gold certificates (or, more specifically, with deposits obtained for gold certificates), but with borrowed money. Thus the Treasury Department met the increased supply of money capital with an increased demand for money capital. If a sudden withdrawal of foreign funds occurs and the Treasury

—the sterilization policy of the U.S Treasury neutralized the effects on the money market.

---

[4] Wilhelm Röpke, "Auslandkredite und Konjunktur," a memorandum written for the Zurich discussion on trade cycle problems. *Schriften des Vereins für Sozialpolitik*, Vol 175, Part II. München and Leipzig 1929, p 241

[5] See *The Federal Reserve Bulletin*, Washington, D C, January 1937.

sells gold, it can use the sales proceeds of the gold to buy back or redeem its debts, and thus put funds at the disposal of the money market. The money capital which is paid out to the foreign creditors (investors or speculators) is in this way replaced by the funds supplied by the Treasury in repaying its debts. Analogous operations are performed by the British Exchange Equalization Account.

The possibility of speculative movements of short-term capital occurring, and producing disturbing fluctuations in the quantity of money, was often used as an argument against the gold standard and against stable exchange rates. A number of writers have advocated flexible exchange rates on this ground. The circumstance that movements of capital would raise the exchange rates of the country to which the capital was flowing and lower the exchange rates of the country from which it was flowing seemed to these writers to be a lesser disturbance. They greatly under-estimated the importance of exchange stability in international trade and of foreign trade itself to the economy as a whole.

The modern offsetting policies seek to combine features of the gold standard and of independent currencies —

—both exchange rates and circulation are kept immune against the effects of capital flows.

The new policy of offsetting what are presumed to be temporary "visits" of foreign capital is an interesting compromise between the mechanism of the nationally managed currency and that of the gold standard. Under the so-called "automatic" gold standard an inflow of capital leads to an increase in the circulation while exchange rates are kept stable; under the "independent paper currency" an inflow of capital leads to a rise in the exchange rate while the quantity of money remains constant; under the new system the attempt is made to keep the exchange rates stable and to keep the quantity of money constant, or rather to make it independent of the movement of capital. The repatriation of foreign capital leads under the automatic gold standard to a diminution of the monetary circulation, and under the independent paper standard to a fall in the exchange rate, under the new system both the monetary circulation and the foreign exchange rates are held constant.

The chief weakness of this "offsetting system" is that it is impossible to know beforehand whether the capital which flows in is going to remain for a short time or a long time. Interference with the normal reactions to movements of capital when investments of longer term are concerned would probably call forth more serious disturbances than those which would be connected with the unhampered reactions to capital which moves in and out again within a short period. Moreover, the size of the movements of short-term capital will be much greater under the offsetting system than they would otherwise be, because the normal reactions produce price adjustments which tend to bring the flow of capital to an end, or even to reverse the flow. Yet, when the presumption is very strong that the inflowing foreign capital is "hot money," which is apt to be withdrawn at any moment, then the offsetting operations of the exchange equalization funds are clearly suited to their purpose.

It has been suggested that foreign short term capital should be frightened off by special taxation

Another policy which has recently been discussed is the proposed application of fiscal measures. It is suggested that special taxes be levied on profits or even on the amount (turnover) of capital invested on the home securities market by foreigners, with the object of diminishing the attractiveness of speculating over the short period. Whereas the monetary measures mentioned previously aim at *compensating* the effects of capital movements, fiscal measures are designed to *diminish* the volume of capital movements by frightening off foreign owners of capital. This policy would be in harmony with most of the state intervention philosophy of the last decades: the mobility and flexibility of economic factors is diminished in the interests of what is hoped will be greater stability.

If, however, we inquire into the causes of the inflow of speculative capital from abroad which is so much objected to, we shall often find that it was the boom tendencies that were already present on the stock exchange which attracted the foreign funds. *La hausse amène la hausse.* The beginnings of the speculative boom originated in a flow of money from domestic sources. And as it is extremely difficult to conceive of a sudden epidemic of saving, we are once again driven back to credit expansion by the banks. It is the "domestic" creation of credit which usually produces that sentiment on the stock exchange and that movement of stock prices, which act as an invitation to foreign funds.

Usually the boom is started by domestic credit inflation,—

—and merely accentuated by foreign participation.

The occasions when the short-term foreign funds flowing onto the stock exchange are to be regarded with real mistrust are when these funds owe their existence to a credit inflation abroad. In this case they bring the foreign "business cycle germ" into the home country.

It may happen, however, that a boom is started by foreign inflation.

CHAPTER XI

THE SUPPLY OF CAPITAL AND INDUSTRIAL FLUCTUATIONS

Why credit expansion is likely to lead to disproportionalities in production —

72. It has been pointed out a number of times in the previous chapters that too easy conditions in the capital market produced by an expansion of bank credit, cause industrial investments to be undertaken which in the course of time will most likely turn out to have been misdirected. It is not my purpose to give a complete description of the way in which this comes about. The process has been analysed in the writings of Wicksell,[1] Mises,[2] Hayek,[3] and others. Hayek's writings exerted much influence in stimulating the discussion of problems of price and interest theory as they relate to excesses and painful setbacks of investment. It is, however, useful for purposes of exposition to have in addition a simplified version which omits the complications of price and interest analysis, but pictures the way in which the supply of money capital affects the structure of production.

—has been explained with reference to relative prices.

A simplified version may be attempted

Cassel attempted to give something of the kind in his *Theory of Social Economy*. An "analysis of real capital . . . brings us back," he says, ". . . to the real capital in existence at the beginning of the period and the capital disposal offered during the period, and, of course, to the other primary factors of production available during that same time."[4] This formulation evidently involves double counting if it counts the "capital disposal offered" *and* "the primary factors of production." If we reduce the analysis to barter terms, all that we find are the "real capital in existence at the beginning of the period" and the "primary factors of production" which are assigned to the production of future output by working with, and adding to, the real capital previously in existence or by replacing real capital that has been used up. The "capital disposal offered" gives the producers command over these primary factors of production so that they can be used for carrying on roundabout processes of production. The "capital disposal" directs the factors of production into the time-consuming processes of production.[5]

---

[1] Knut Wicksell, *Interest and Prices*, London 1936 (German edition, *Geldzins und Güterpreise*, 1898); *Lectures on Political Economy*, Vol. II, London 1934 (German edition, 1922).

[2] Ludwig von Mises, *The Theory of Money and Credit*, London 1934 (first German edition 1912); *Geldwertstabilisierung und Konjunkturpolitik*, Jena 1928.

[3] Friedrich A. von Hayek, *Monetary Theory and the Trade Cycle*, London 1932 (German edition 1929); *Prices and Production*, London 1931. At the time when I completed the German edition of this book, *Prices and Production* had not yet been published and so I was able to refer to it only as a forthcoming publication.

Money capital directs productive services into roundabout processes of production

In his total gross receipts for the products sold, an individual entrepreneur recovers, in liquid form, the cost of production invested in his output. If he wants to maintain the volume of output at the same level as before, he must reinvest the recovered cost, i.e., the liquidated investment of the preceding periods. Thus the money proceeds of the sale of his products represent money capital which the entrepreneur can use, if he finds it profitable, for the purpose of continuing production by buying capital goods (intermediate products) from other entrepreneurs

If the volume of production is to be maintained all liquidated capital must be reinvested

---

[4] Gustav Cassel, *The Theory of Social Economy*, London 1932 (translated from the fifth German edition), p. 207.

[5] The problem of the time dimension of the production process has provoked a great deal of heated discussion in recent years. I have attempted to clear up the most serious misunderstandings and the confusion which surround the concept of the time structure of the capitalistic production process, in an essay entitled "Professor Knight and the Period of Production," in the *Journal of Political Economy*, Vol. 43, 1935.

An increase in money capital may not disturb production processes —

—a decrease in money capital is more likely to cause such disturbances.

and combining them with original factors of production (mostly the services of labour). The money capital which he reinvests is, in part, liquidated working capital and, in part, replacement allowance for fixed capital. When a surplus over these two is received in the total proceeds of production and when a part of such "net return" is saved (instead of consumed), the entrepreneur will be able to increase the scale of his operations. An increase in the supply of money capital which comes about in this way will not usually cause any painful or disturbing dislocation among the various stages of the production structure. Intermediate products and primary factors of production (labour and land) will, in this case, be used in stages that are more remote from consumption instead of in stages that are nearer to consumption. A decline in the supply of money capital, on the other hand, will usually give rise to disturbances (crises). This is because a sudden shift of means of production from the stages that are remote from consumption to the stages that are nearer to consumption would involve skipping several stages, and this is technically impossible.[8] A diminution in the supply of money capital will cause a disruption in the process of production such that intermediate products produced in the stages of production remote from consumption will fail to find buyers, investments in the preceding stages will fail to be liquidated at the due date, and a glut will result in large parts of industry.

---

[8] This proposition has not so far been disproved. Since the first edition of this book was published the theory of production stages has been challenged on the grounds that it operates on such a high level of abstraction that it is difficult to bring it into line with concrete facts. I must concede that there are no special investigations to which I can appeal for support of the argument of one-sided technical adaptability according to which a lengthening of the production period can be easily accomplished whereas a shortening can only take place with great difficulties.

However, I am leaving the text unchanged and confining further comment to this note. Even if the one-sided technical adaptability were non-existent, sufficient explanation of the disturbances could be found by reference to price relationships. I am thinking especially of the hypothesis that the marginal productivity of labour is raised by a lengthening of the production period (i.e., by an increase in the supply of capital) and is lowered by a shortening of the production period (i.e., a reduction in the supply of capital). One and the same volume of money will thus allow of higher equilibrium wage rates if it comes on to the market as money capital than if it comes on to the market as consumer purchasing power.

73. This simplified version of a set of rather complicated relationships tells us that in every period the opportunities for making use of the real capital taken over from the previous period, and the possibility of directing into production the primary factors that are necessary to maintain a given production structure, are dependent on the amount of free money capital that is available. It follows that in order for production to be carried on at an unchanged level the free money capital supplied in each period must not fall below the amount supplied in the previous period.

A condition for the maintenance of an undiminished supply of money capital ready for investment is that the returns of production should always permit provision to be made for replacing the working capital that has been used up and the fixed capital that has depreciated. The entrepreneur must, therefore, be able to conduct his business on a paying basis and must not use more of his gross return for consumption purposes than allows his working capital and amortization capital to be reinvested at an undiminished figure. If, in addition to this, part of the net return, or parts of the earnings of labour, land, and capital, are invested (new savings), it is possible for longer roundabout methods of production to be undertaken. The new production cannot, however, be continued, or rather the volume of investment cannot be maintained at the higher level, in the next period unless the same dose of money capital is forthcoming—otherwise the

Money capital must be applied in continuous doses at successive periods.

Savings supplied once instead of repetitively lead to misinvestment.

increased production will not be taken over by the succeeding stage. And where the production structure has many stages, a dose of saved money capital which is supplied only once, and not continuously, may cause production processes to be started which cannot be continued.

The fact that saving may have disturbing effects of the kind liable to cause a depression has been pointed out and explained in similar terms by Lampe[7] and Hayek.[8] These theories, however, have to be sharply distinguished from the Keynesian hoarding theory and the under-consumption theories of the Foster and Catchings' style. Nobody will deny that saving, *if* it involves spontaneous or institutional hoarding, will lead to disturbances (as Keynes shows); what can be denied, however, is that intended saving always or even usually involves hoarding. The idea that saving is bound to produce a crisis, independently of hoarding, because it involves a restriction of consumption (as Foster and Catchings[9] hold) is to my mind untenable. I mention these theories here only to bring out the contrast. The theory which I have presented, connecting up saving with disturbances, is of quite a different nature. The substance of this theory is that the saving process leads to an extension of the production structure which will be followed by a contraction associated with a crisis, if the saving is not continued (i.e., maintained and repeated) in the next period. It is not the saving itself which produces the disturbance but the decline in saving.

---

[7] Adolf Lampe, *Zur Theorie des Sparprozesses und der Kreditschöpfung*, Jena 1926, especially pp. 67 ff.

[8] F. A. Hayek, *Monetary Theory and the Trade Cycle*, pp. 205 ff. In an article entitled "Geldtheorie und Konjunkturtheorie" (*Mitteilungen des Verbandes österreichischer Banken und Bankiers*, Vol. XI, 1929, p. 166) in which I reviewed Hayek's book in its German edition, I expressed the belief that there were objections on grounds of unity in the system to the idea that changes in the volume of saving could cause cyclical fluctuations. I now (1931) think that this belief was unfounded.

[9] W. T. Foster and W. Catchings, *Profits*, Publication of the Pollak Foundation for Economic Research, No. 8, Boston and New York 1925, and by the same authors, *Progress and Plenty: A Way out of the Dilemma of Thrift*, in the same series.

It is not saving which causes disturbance, but a decline in saving.

Discussions of the saving process often run in terms of a certain *rate* of saving or rate of capital accumulation. A given percentage rate of increase in saving would be reckoned on the basis of a constantly increasing stock of capital and would mean, in consequence, an increase in the absolute dose of new saving from period to period. We have said that the condition for the maintenance of a given level of production, or for the continuance of a production process that has once been started, is merely that there should be a constant absolute volume of current saving.[1]

It has long since been realized that consumption of capital diminishes the potential output of society in the future. Our simple theoretical scheme serves to show that a process of capital consumption may be accompanied right at the beginning by disturbances of the economic system leading to a crisis. The diminution in the supply of money capital due to inadequate or declining allocations to replacement funds makes it impossible for some sections of the producers' goods industries to carry on. The outward sign of this will be a falling off in sales and a contraction of production in the producers' goods industries.

Capital consumption affects not only future output, but may lead to immediate contraction and crisis.

---

[1] A more precise formulation would allow for a diminution in the dose of new savings to the extent that the supply of free money capital is increased by the depreciation allowances on the newly built capital. If we assume that in any period the replacement funds (on account of the wearing out and using up of real capital) amount to 100 and the new savings to 10, then at a later period the replacement funds for the existing stock of capital, which has increased by the new savings, will perhaps have risen to 101. In order for the supply of money capital to remain the same as before, the new savings of this period would only have to amount to 9.

Over-consumption may cause a depression

It is important to note that measures which are designed to raise consumption, and which have been very popular instruments of economic policy during the last two decades, may have the same effect. If the increase in consumption takes place at the expense of capital formation (even if net capital formation is still positive but smaller than before), it may lead to disturbances in the structure of production such as have been described.[2] The mere diminution in the supply of new money capital may be sufficient to cause a depression.

Not all of the money capital supplied passes through the capital market,—

—for instance, replacement allowances—

—and corporate savings—

—may meet demand at the place of their origin

74. The entire amount of money capital supplied does not all appear on the credit market. When an entrepreneur sets aside the replacement allowances necessary to make good for the depreciation of his fixed capital, he will normally reinvest these funds in his own business. These funds have to be counted as part of the supply of money capital available for investment even though they do not pass through the capital market. The entrepreneur will retain this money capital in his own business so long as that business shows sufficient profit. Furthermore, a major part of the new capital deriving from business profits may be used in the firm of its origin, with the result that even newly saved capital does not always pass through the capital market. This is what is usually called self-finance of industry, or corporate saving.

In those cases where the saver (or the person who provides the money capital) is not identical with the real investor, the money capital comes onto the market. A leading rôle in the organization of the loan market is, of course, played by the banks. As is well known, the banks do not confine their activities merely to the transferring of credits deriving from new savings and replacement funds; they grant other credits besides. No matter whether they do this by making advances or overdrafts, by discounting bills or by purchasing securities, they are providing purchasing power which has not been given up by anybody else beforehand. Part of the supply of money capital thus frequently is "created" credit. Opinions as to how large a part of the supply of money capital this represents, and as to what are its effects, are various. Cassel, for example, stated that the part of money capital that comes from "the issue of bank money" is very small in comparison to the supply of genuine savings.[3] Schumpeter, on the other hand, took the creation of money capital by the banks as the essential factor for his *Theory of Economic Development*,[4] and a number of authors have glorified the "creative" power of created credit. There is no doubt whatever that created bank credit is in fact a powerful agent in the shaping of economic changes. It has, however, been explained in many theories of the trade cycle, and especially in the credit theory developed by Wicksell and Mises, that these changes will usually take the form of cumulative-reversive movements.

---

[2] F. A. von Hayek, *Prices and Production*, p. 128. The simple theoretical scheme developed here helps to explain how disturbances may arise from excessive taxes, wages, &c. This explanation might be called an "over-consumption theory." On this point see my article on "The Consumption of Capital in Austria," *Review of Economic Statistics*, Vol. XVII, 1935.

Created credit is a part of the supply of money capital,—

—it functions as an agent of change—

It is, of course, not the existence of bank credit, but its expansion, that is the agent of change. If, for example, the volume of credit outstanding amounts to x, this volume of credit will have exerted its effects at the time when it was created, but the continued existence of this amount, that is, the prolongation of the credits or their replacement by loans to other borrowers when they are repaid, will not set any new

—not through its existence, but through its expansion.

---

[3] Gustav Cassel, *op. cit.*, p. 302 of fourth German edition.

[4] Cambridge (Mass.) 1934. (First German edition, 1911.)

movements going It is only when the banks expand their lending to x+n that we can talk about an inflationary supply of money capital to the extent of n

It will be clear at once that a single increase in inflationary bank credit means a single dose of new money capital and enables an expansion in the volume of production to take place which is liable to prove impossible to sustain in the very next period unless further doses of money capital follow It is conceivable that a rise in voluntary saving might occur in the succeeding periods sufficient to take the place of the doses of money capital which had been provided in the first period by bank credit In order for the production processes that were started with the aid of bank credit to be continued, it would be necessary for the volume of credit outstanding to remain at the increased level of x+n, *and* for the amount of voluntary saving per period to increase by n This increased provision of voluntary savings in the periods succeeding the period of credit creation must not be confused with the provision of "forced saving" resulting from the investment of the created credit

If an increased production volume is to be maintained, a single dose of created credit must be succeeded by further doses or by corresponding increase of voluntary saving

Since there is nothing which would "automatically" call forth a sufficient increase in the level of voluntary saving, we have to conclude that the only way in which a sudden recession in the volume of production previously expanded by means of bank credit can be avoided is if there is a continual expansion of bank credit in the succeeding periods which will provide additional doses of inflationary money capital. Supposing that in the initial period bank lending had been increased from x to x+n, then the extension of production produced by that increase would require for its maintenance a further expansion of bank credit to x+2n in the next period and to x+3n in the

The indicated rate of investment is likely to be maintained only by a steady or increasing rate of credit inflation third period. (It would even be necessary for the later doses to be increased in money volume in order to compensate for the accompanying price rise.) As soon, however, as the process of further credit inflation comes to a stop for any reason, then even if there is no credit contraction in an absolute sense, the total value of money capital available will be reduced compared with the previous period, and it will be impossible to maintain the productive activity at the level on which it was started. The cessation of the credit inflation will lead to lower sales and to the contraction of production in the stages of production remote from the consumption end, that is, in the producers' goods industries. Probably it would be possible in many cases to ward off the crisis for some time longer by continuing the credit expansion, but the experiences of past inflations showed that nothing is gained by so doing.

The crisis breaks as inflation stops

Our simplified model, based on the assumption of a constant supply of money capital, is sufficient to provide us with the main conclusions of the monetary theory of the trade cycle. Since all inflations must come to an end, since an everlasting process of inflation is impossible, an expansion of credit by the banks usually contains the seeds of a crisis. The roundabout production process can in the long run be maintained only at that level which is allowed by a permanent and steady flow of money capital supplied by voluntary saving.

The long run rate of investment is determined by voluntary saving

CHAPTER XII

CREDIT CREATION AND THE ATTEMPT TO DETERMINE ITS PROPER LIMITS

75 The view expressed here that credit expansion is liable to end with a crisis is not one that is shared by all economists. It may be emphasized once again that it is not, of course, the credit itself which is "dangerous." The bank credit created by the note issuing banks and the commercial banks may in the aggregate comprise a very considerable proportion of the total circulation (i.e., the circulation of money including checking deposits) and it would be courting ridicule to claim that this "fiduciary circulation" is dangerous. It is not dangerous any longer. It exerted its effects earlier at the time of its creation, and by now has long been a part of the circulation of means of payment which is entirely harmless and is even necessary in order that the existing price structure may be maintained.

The double rôle of money: as circulating medium it affects prices; as money capital it affects interest rates

The reason why there are so many misunderstandings and differences of opinion in this sphere of banking theory is that it is a sphere where problems relating to the supply of money and the price level converge with problems relating to the demand for capital and the level of interest rates. The double rôle of bank money as a medium of payment and as money capital has paved the way for a great deal of confusion which many authors seem unable to escape. The muddle is avoided if it is made perfectly clear that bank money functions directly as money capital at the time of its creation by new bank loans and investments. After it has been used as money capital by the entrepreneur who obtained it in the first instance, it becomes part of the general stream of money, and flows in and out of the cash holdings of the various members of the exchange economy, by becoming part of their money income. It can act as money capital a second and third time only when it becomes part of the voluntary savings of an income recipient who forgoes present consumption.[1]

It acts as money capital when it is created by loans and investments,—

—and later again only when it is saved out of income.

The creation of bank money (i.e., the granting of new loans or the purchasing of securities by a bank) exerts its effect, like all additions to the supply of money capital, on the rate of interest and on the structure of production. The continued existence of bank money that was created previously (and, of course, has had its short-run effects) is neutral towards the credit market and the structure of production. The creation and continued existence of this money has, however, a lasting effect on the supply of circulating media and the price level. The causal sequence (or rather the sequence of probable tendencies) may be roughly described as follows: The expansion of bank credit will be accompanied by a lowering of interest rates and will lead to a rise in prices and money incomes.[2] When the credit expansion ceases and if the volume of bank money can be maintained at the higher level, prices and money incomes may remain at an elevated level, whereas interest rates will rise again. While the price level is dependent on the *absolute volume* of circulating media,

Credit creation has a lasting effect on the price level,—

—but only a temporary one on interest rates.

---

[1] A qualification to this thesis will be treated in §§ 87 to 90.

[2] It is to be understood that "lowering" stands also for "counteracting an increase," and "raising" for "counteracting a fall."

the rate of interest hinges on *changes* in the volume of circulating media.[3]

A cardinal mistake of many writers on monetary theory is that they believe that if the amount of newly created circulating media is only just sufficient to maintain approximate constancy of the price level (which would otherwise have fallen), it will have no effects on the capital market and the structure of production. These writers are the victims of a simple sophism which runs somewhat as follows: "A rate of interest at which no more is invested than is provided for out of voluntary savings leaves the price level unchanged. *Therefore*, a rate of interest which keeps the price level constant is equivalent to this equilibrium rate of interest." Unfortunately "leaving the price level unchanged" is not the same thing as "keeping it constant." The creation of new circulating media so as to keep constant a price level which would otherwise have fallen in response to technical progress, may have the same unstabilizing effect on the supply of money capital that has been described before, and thus be liable to lead to a crisis In spite of their stabilizing effect on the price level, the emergence of the new circulating media in the form of money capital may cause roundabout processes of production to be undertaken which cannot in the long run be maintained [4]

---

[3] This statement seems to be in need of reformulation in view of the recent discussion of Mr Keynes' liquidity preference schedule. There the interest rate is considered as a function of the absolute stock of money and not, as I have it, of the changes of that stock. Keynes' liquidity preference function contains, however, an essential part which is dependent on the level of income and transactions, and independent of the rate of interest (viz., the balances held for "transactions and precautionary motives"). A change in the volume of money affects not only the interest rate, but also (through a change in the rate of investment) the level of incomes and transactions: it thus causes a subsequent shift of the composite liquidity preference function, which tends to send the interest rate in the direction of the level whence it started. If the increase in the volume of bank money has taken place in a situation of "full employment," or if, in spite of unemployment, money wage rates have risen along with the money supply, then the eventual rate of interest will be the same as the one ruling before the increase in the stock of money. (If a permanent increase in employment and real income can be secured, the final rate of interest will, of course, be lower owing to an increased flow of voluntary savings.)

The tricky qualifications which are necessary (but so easily overlooked), if the interest rate is explained as a function of the stock of money, are a serious disadvantage of this approach. The traditional explanation of the interest rate in terms of a flow of loanable funds is preferable. It is easy to see that an increase in the stock of bank money constitutes an addition to the flow of loanable funds in the period in which the increase takes place. The same is true for a release of hitherto idle funds or the use of temporary surplus cash balances.

For an able discussion of the "stock v. flow" analyses, see E. S. Shaw, "False Issues in the Interest-Theory Controversy," *Journal of Political Economy*, Vol. XLVI (1938), pp. 838-856.

Credit creation may stabilize the price level and yet unstabilize production

76 Many believers in the ideal of the stable price level, who propose that a fall of prices due to technical progress and falling costs of production should be prevented by means of credit expansion, are fully conscious of the accompanying danger of over investment It is, however, open to them to argue that the additional circulating media should be used to finance consumption, and in that case, would not produce the changes in the production structure which eventually lead to a crisis It would be possible to keep the newly created purchasing power out of investment channels and to pour it exclusively into the hands of consumers either by financing instalment credit, or by subsidising wage increases, or by financing relief and bonus payments, or by financing other state expenditure What conclusions does the rough analysis of the previous chapter allow us to draw regarding this programme? The inflationary augmentation of consumer purchasing power would lower the relative share of total purchasing power devoted to investment (reinvestment) purposes This would mean a relative diminution in the supply of "capital disposal" If the production of producers' goods competes with the pro-

Over investment by money creation might be prevented, if the new money financed consumption only

Increased consumers demand, however,—

---

[4] F A von Hayek, *Monetary Theory and the Trade Cycle*, pp 114 ff

duction of consumers' goods by using the same productive factors, then a rise in costs may occur, leading to a contraction of production in certain producers' goods industries and, in turn, to diminished sales in other industries which previously supplied them with materials. Under conditions of full employment of the labour supply, this would probably occur immediately. But even if there is unemployment, the supply of special kinds of labour or of other productive factors may be scarce. The rise in consumer purchasing power and the relative diminution in investment purchasing power will then lead, *via* a rise in costs, to dislocations in the capital goods industries.

— may raise production costs, reduce real investment,—

—and cause contraction in capital goods industries.

So long as there are factors of production which are scarce, i.e., which rise in price when the demand increases,[5] the respective effects of the alternative types of inflation are likely to be these. Credit granted only to producers will lead first to an expansion of the producers' goods industries (prosperity) and later to a crisis and contraction (depression), credit granted only to consumers may lead directly to a painful contraction of the producers' goods industries.

Thus both producers' credit and consumers' credit can produce disproportionalities.

An ideal sharing out of new credit seems fantastic.

The question whether it would be possible to distribute the new purchasing power created by bank lending so "ideally" between investors and consumers as to avoid all disturbances at the time when the credit expansion is discontinued, is more than doubtful.

Stock exchange credit finances chiefly investment and, only to a smaller extent, consumption.

It is hardly necessary to point out that stock exchange credits are usually investment credits. It is only a very much smaller portion of stock exchange loans which is used to finance the purchase of securities from sellers who want to spend the whole or part of their sales proceeds on consumption, that has to be regarded as consumption credit.

---

[5] Joan Robinson, *The Economics of Imperfect Competition*, p. 110.

What are the limits to a healthy credit expansion?

77. There are many people who admit that there are dangers connected with inflation, but who argue that a "tiny bit" of inflation cannot do any harm. This attitude, which is dictated by an inflationary bias which exists among large sections of the business world, has its counterpart in the scientific treatment of the problem of bank credit. Everywhere the question is asked: What are the limits to which it is possible to go in expanding bank credit without producing harmful effects; what are the limits to a "healthy" credit expansion?

It has been remarked that the answer to this question is commonly influenced by a confusion of the effects on the price level and the effects on the interest rate. There are many proponents of price stabilization who lack all understanding of the connexions between an increase in the quantity of circulating media, the rate of interest, and production. But even first-rate professional economists sometimes fall into this error. Röpke, for instance, said once in his discussion of capital formation: "If no rise in prices occurs this means that the volume of credit is being kept within limits that are necessary for financing the transactions of the economic system and is thus fulfilling a function which is evidently outside the functions of capital."[6] Röpke is here voicing the peculiar view that up to a certain limit, i.e., so long as it does not produce any absolute price rise, a credit expansion does not represent any increase in the supply of money capital. It is not clear why an expansion of bank credit should be sometimes within and sometimes "outside the functions of capital." Incidentally, Röpke does not always adhere to the argument quoted, especially as in other

It has been said that created credit, as long as it does not raise prices does not function as money capital,—

---

[6] Wilhelm Röpke, *loc. cit.*, p. 15

places he has himself spoken rather disrespectfully of the creed of the price-level stabilizers.[7]

One author who is an untiring advocate of the universal remedy of the "stable price level" is Gustav Cassel. This is not unimportant since this author has had a great deal of influence on economic writings all over the world. According to Cassel: "Such an increase (in bank lending) is permissible to the extent that the general progress of industry means a greater demand for money,"[8] the measure of the demand for money being the constancy of the general price level. In so saying, Cassel is fully conscious of the fact that such creation of an additional supply of circulating media involves a fall in the rate of interest charged by the banks[9] and that a fall in the rate of interest charged by the banks gives an artificial stimulus to the production of capital goods.[10] One might suppose that Cassel would recognize these two elements as causes of cycles and crises, but all this is forgotten when he comes to the discussion of the stable price level. Indeed, Cassel defines the equilibrium rate of interest[1] not as that rate of interest at which the amount of capital investment would be equivalent to the supply of money capital from "natural sources," but as that rate of interest at which the quantity of circulating

—as that interest rate which stabilizes the price level is the 'equilibrium rate'—

---

[7] Wilhelm Röpke, "Kredit und Konjunktur," *Jahrbücher für Nationalökonomie und Statistik*, Third Series, Vol. 69, p. 265. See also his book, *Crises and Cycles*, London 1936, pp. 149 ff.

[8] *Theory of Social Economy*, p. 439.

[9] *Op. cit.*, pp. 437 and 438: "Only if the banks fix their rate once more below that of the capital market can this increase in their money be continued."

[10] *Op. cit.*, p. 437: "If the market rate of interest is kept too low, the mistake will reveal itself in a relatively increased production of capital."

[1] These terms were first used by Karl Schlesinger in his *Theorie der Geld und Kreditwirtschaft*, Munich and Leipzig 1914, p. 128. Cassel does not use them literally, but paraphrases them

media will move in such a way as to give an approximately stable price level.[2]

—and that it leads to forced capital formation without causing dislocations

The arguments which Cassel adduces in support of his view that "a falsification of the capital market's situation through too low a rate of interest"[3] merely produces a "transition from one position of equilibrium to another" are not sufficient proof that this mechanism functions without producing the phenomena associated with a crisis. Cassel shows that a single reduction of the rate of interest by the banks cannot lead to a lasting inflation since certain factors soon begin operating to counter-balance the stimulus of the lower rate of interest.[4] This may be perfectly correct on its own merits, and had already been pointed out by Mises, but it has nothing to do with the question whether the increase in the production of capital can be maintained. Cassel deals with this question in the following sentence, however: "The artificial reduction of the interest rate has, then, led to an artificially reinforced capital production, which is tantamount to a forced increase in the national savings."[5] This sentence, which Cassel does not make the slightest attempt to substantiate, is obviously equivalent to accepting the doctrines of "forced saving" and of the "creative power of bank credit," which is not quite in harmony with Cassel's other views.

---

[2] *Op. cit.*, pp. 501 and 502. "The true interest on capital might, therefore, be defined as that rate of interest at which the value of money remains unaltered. At this rate of interest just so much new bank money will be put into circulation as corresponds to the growing needs of trade, the price level remaining constant. The competition of bank money with savings on the capital market may be considered as normal and the rate of interest which keeps the capital market in equilibrium may be defined as the natural rate of interest."

J. M. Keynes in his *Treatise on Money*, Vol. I, defined the natural rate of interest without reference to the price level, solely on the basis of the equilibrium in the capital market. "Thus the natural rate of interest is the rate at which saving and the value of investment are exactly balanced" (p. 155). Nevertheless the connexion with the stable price level is implicit in Keynes's fundamental equations.

[3] Cassel, *op. cit.*, p. 437.

[4] *Ibid.*

[5] *Ibid.*

So far, no satisfactory proof has been given in support of the argument that credit creation, to the extent necessary to prevent a fall in the general price level, will not cause disturbances in the production structure. We are, therefore, constrained to fall back on the results of Hayek's analysis. "The rate of interest at which, in an expanding economy, the amount of new money entering circulation is just sufficient to keep the price-level stable, is always lower than the rate which would keep the amount of available loan capital equal to the amount simultaneously saved by the public; and thus, despite the stability of the price level, it makes possible a development leading away from the equilibrium position."[6]

It seems more probable that price level stabilization in an expanding economy leads to disequilibrium

78. We have seen that it is a mistake to attempt to define the limits of a "harmless" expansion of bank credit in terms of price stabilization. One of the few authors who have attempted to define the limits of permissible credit expansion in other terms is Adolf Lampe. "Its limits," says Lampe, "are determined by: (a) the size of the reserves of the social product, (b) the tempo at which the output of the social product follows the input, (c) whether it is economically possible to put back into the economic process what has been taken out (or its equivalent), so that the social product may be reproduced in time."[7] Commendable as this attempt to determine the limits may be in comparison with the contributions of other students of this problem, it suffers in my opinion from

Other criteria for the proper limits of credit expansion have been advanced the use of concepts which, if they are not incomprehensible, are at least extremely vague. If the "reserves of social product" are supposed to represent unused productive factors, especially labour which is involuntarily unemployed, then Lampe's determinant (a) would come to much the same thing as Keynes' new indicator of credit expansion. It has to be noted, however, that this determinant is not sufficient according to Lampe, and that he refers to two other factors which have to be present if the economic process is to go on smoothly. We shall have occasion to refer again to Keynes' indicator later in this chapter.

---

[6] F. A. von Hayek, *op. cit.*, p. 114.

[7] Adolf Lampe, *Zur Theorie des Sparprozesses und der Kreditschöpfung*, p. 127.

There are certain considerations which can be stated in fairly simple terms, and which seem to me to enable us to find the limits within which it is possible to expand bank credit without incurring the penalties. Newly created credit places money capital at the disposal of the market without any corresponding release of productive factors due to voluntary refraining from consumption. Whereas the normal process of capital formation consists of two steps, saving and investing, newly created bank credit makes it possible for investment to take place in the absence of voluntary saving, and this is what gives rise to the development of disproportionalities in the production process. We are also familiar with the opposite case of onesidedness in the process: intended saving without investment, that is hoarding. In this case, the private saving, as we explained in § 14, fails to produce any saving from the social point of view. In other words, it does not lead to any capital formation. The command over consumers' goods or over the corresponding factors of production, instead of being made over to an investor in the form of "capital disposal," is returned to the consumers (and other buyers) in the form of a deflationary fall in prices, or it is even lost if wage rigidities

Investment without intended saving is inflation,—

—intended saving without investment is deflation,—

do not permit that the labour force be bought for a reduced amount of money.

—which inflation of credit is healthy if it compensates for deflation due to hoarding

This exposition points straight to the answer to our question. No disturbance in the productive structure of the economic system will be caused provided the investment without saving—which is financed by credit expansion—does not exceed the saving without investment—which is sterilized by hoarding. This leads to the conclusion that the limits of a healthy inflation of credit are determined by the extent of the simultaneous deflation due to hoarding.

It is difficult to estimate the amount of net hoarding

High-flown inflationary aspirations do not receive much support from our conclusions. Our rule says that additional purchasing power may be created and lent to investors to the extent that there are funds that have been saved but not invested. In other words, unused purchasing power is substituted for by newly created purchasing power.* (The interest on the loans or investments accrues to the banks instead of to the savers.) Although this rule may seem to be quite clear-cut, in practice it is very vague owing to the difficulty of estimating the amount and the duration of the hoarding. If we take an increase in idle balances as justification for expanding credit, then we must regard a decrease in idle balances as a reason for contracting credit. If the hoarding and dishoarding approximately balance each other, we arrive at a figure for appropriate credit expansion of exactly nil. Only on condition that the figure for net hoarding is positive can we justify an expansion of credit on these grounds.

79. The case of compensating a deflation due to hoarding does not exhaust all possible cases where a credit expansion could take place without leading to a

---

* Cf. M. W. Holtrop, *De Omloopssnelheid van het Geld*, Amsterdam 1928, p. 134: "De door geldschepping in het leven geroepen koopkracht treedt hier in de plaats van de door oppotting aan het verkeer onttrokkene."

crisis We may arrive at another case by recalling our theoretical "scheme of the constant supply of money capital" (see above §73). We saw there that it was conceivable that in a period following on a period of credit expansion a rise in voluntary saving might occur which would provide a dose of money capital equivalent to what had initially been provided out of bank credit In this case the money capital supplied in the first period would be of a purely inflationary character, whereas that supplied in the next period would consist of money capital representing the voluntary giving up of consumption It might be said that the supply of money capital in this case preceded the intended release of productive factors from the consumption goods industries by one period But this anticipation of saving would not lead *to* a crisis so long as the saving and investment activity were in fact maintained on the higher level [*]

Another case of healthy inflation is where initial credit creation is "relieved" by corresponding doses of voluntary saving

The conjuncture of events just described is, however, not likely to occur except by mere chance The case has nothing to do with the idea of "forced saving" nor with the equality of "*ex post* savings" with the investment financed out of credit expansion [1] What is meant here is voluntary saving which takes place in the periods succeeding a period of credit expansion, and which serves to continue financing the increased volume of investment called forth previously by the

Increased voluntary savings might be forthcoming been use of the 'inflated' ability to save,—

---

[*] The same idea has been expressed by Emil Lederer, "Ort und Grenze des zusätzlichen Kredits" *Archiv fur Sozialwissenschaft und Sozialpolitik*, Vol 63, Tubingen 1930 p 522 "These (viz, the crisis and depression) are, however, the results of a credit policy which causes more purchasing power to be lent for purposes of financing investment than was justified by the rate of saving, the rate of profit, and the *saving expected to be made in the near future*" (my italics) Certain other arguments in Lederer's article conflict markedly with my own I shall deal with these arguments later

[1] Bertil Ohlin, "Some Notes on the Stockholm Theory of Savings and Investment" *Economic Journal*, Vol XLVII, 1937, pp. 53-69 and 221 240 For instance, on p 224 "*Ex post* one finds equality between the total quantity of new credit during the period, and the sum total of positive individual savings"

—but this would be lasting only if real income were permanently increased.

credit expansion. It is not impossible for this to occur, especially as the ability to save may rise in consequence of the previous credit expansion. The increased ability to save cannot, however, last once the rise in prices has caught up with the increased level of money income. Only in the case of unemployed factors being absorbed into the production process in such a way that total real income is increased permanently, can the ability to save be raised permanently. And only then may it be possible for a rise in voluntary saving to keep the supply of money capital at the higher level after the credit injections have ceased.

The "secondary saving" out of inflated profits would only intensify over-investment and the subsequent reaction.

The saving which is made by entrepreneurs out of the inflated profits accruing from the credit expansion (and which might perhaps be called "secondary saving") does not suffice to prevent a subsequent reaction. It is more likely to reinforce the tendency to over-investment and to make the subsequent reaction more severe, since the profit inflation will probably reach its end at the same time as the credit inflation. Thus two sources of money capital—credit expansion and corporate saving out of inflated profits—will dry up simultaneously. It seems, therefore, that the setback in investment activity will be inevitably intensified.

There is thus little likelihood that investment activity can be maintained at the higher level after the credit expansion has come to an end. The increase in investment which was financed out of bank credit will then turn out to have been nothing more than the upward phase of a trade cycle which is followed by a crisis and depression. We conclude that credit creation may be, so to speak, "money in advance" against the savings of the future, but since the future development of voluntary savings can never be predicted beforehand, there is not much justification for expanding bank credit on the basis of these future savings

Changes in the degree of vertical integration of industry affect the amounts of cash balances both idle and active held for a given volume of business

80 Another significant consideration relevant to the determination of the proper limits of credit creation centres around the problems of changes in the volume of money transactions and in cash balances of business firms The cash balances of the various firms constitute part of their circulating capital The cash holdings of all firms of a given industry with a given volume of business will be larger or smaller according as there is a lesser or greater degree of vertical integration of production, i.e., unification of different stages of any branch of production in one firm [2] This applies both to their minimum cash reserves and to their average cash balances The former are the cash reserves which are normally held in a preconceived amount in order to be prepared for unforeseen expenses The larger the number of firms, the larger will be the aggregate size of these basic reserves, and the smaller the number of firms, the smaller will be the sum of these idle cash holdings The average cash holdings include active balances which are not determined according to any fixed plan, but are a reflection of the fact that current receipts accumulate in the cash holdings of the firms for some interval (however short) before they are spent The more firms there are (through which the products have to pass in the course of being processed), the more transactions there are to be settled with money, and, therefore, the higher are the cash balances held by the industry concerned for a given volume of business The fewer the firms,

---

[2] Hans Neisser, *Der Tauschwert des Geldes*, pp 20 ff , M W Holtrop, "Die Umlaufsgeschwindigkeit des Geldes," *Beiträge zur Geldtheorie*, edited by F A von Hayek, pp 129 ff , F A Hayek, *Prices and Production*, 2nd edition, p 120 Holtrop talks about the "coefficient of differentiation," and Hayek about the "coefficient of money transactions"

the fewer the transactions that need to be settled with money, and, therefore, the smaller the relative cash balances held in the industry concerned.

These changes affect both prices and interest

Changes in the necessary size of these cash holdings do not only affect the price system. They also represent changes in the demand for working capital and consequently influence the demand for, and supply of, money capital. It might be possible to compensate changes of this kind by increasing or decreasing the volume of credit: in the case of increasing vertical integration of different establishments, it would be necessary to contract credit, and in the case of increasing vertical differentiation of industry, i.e., in the case of the splitting up of firms into separate units controlling separate phases of the productive process, it would be necessary to expand credit. It does not seem to me, however, that such movements could, in actual practice, be taken account of by banking policy.

Credit creation to offset the effects of reduced integration of industry would be another case of healthy inflation

It is frequently argued that an increase in population justifies an increase in the volume of money. This argument is, however, not correct in the form in which it is stated. It obviously makes the implicit assumption that the number of separate holders of cash bears a fixed ratio to the size of the population. Only if this were so, could an increase in population be held to justify an increase in the volume of money. An increase in population *per se* (or in miniature an addition of a baby to the family) does, of course, evoke the desire for "more money" (in reality more real income) with which to feed the additional mouth, but this does not constitute an increased "demand for money" or a reason for increasing the volume of money in the system.

Population growth involves an increased demand for money only if the number of household units is increased,—

On the other hand, the number of separate households, and, consequently, the number of people who want to hold minimum cash reserves, may increase without a growth in population. Let us suppose that after a long period during which the population has been constant, the population figure rises over a number of years in consequence of an increase in the birth-rate, and later becomes stable again. The increase in the number of babies would be no reason for an increase in the volume of money. Later, however, when the population has already stopped increasing, the age distribution of the population will change. There will be a larger number of young people reaching the age when they begin earning their own living and become independent. Quite apart from the probable increase in the supply of labour, the fact that the number of owners of pockets, purses, and bank accounts, increases explains that there will be an increased demand for cash; this will have a deflationary influence and should be compensated by an increase in the volume of circulation.

Thus, it is not the increase in population *per se*, but the increase in the number of people wanting to hold cash, which gives the expansion of credit its compensatory character.[1] —to offset this increase is a fourth case of healthy inflation

81. Our discussion of the "stable price level" idea and of the proposal of price-stabilizing expansions of credit has already shown that an increase in the volume of production of goods does not prevent an accompanying credit expansion from leading eventually into crisis and depression. One of the views that is most widely held among the public is that a growth in the production of goods requires additional money to finance the increased movement of goods, and that, if the additional money is not provided, disturbances, leading to a crisis and depression, are certain to result. Increased production does not warrant credit creation More production without more money need not cause depressions.

---

[1] In the German edition I made the mistake of denying unreservedly the proposition that an increase in population justifies credit expansion.

But it has been sufficiently established that a fall in prices which is due to increased productivity need not give rise to economic depression.[4]

The most extreme form of the argument that there should be an expansion in the volume of money every time there is an increase in the output of goods is to be found in the so-called "classic plan of money creation" of Bendixen.[5] He proposed that every good produced should be accompanied by an increase in the amount of money (through the discounting of commercial bills) corresponding to the value of the newly produced good. This doctrine found an enthusiastic response[6] in certain circles in Germany; to-day it no longer has any following.

The theory that purely commercial bank credit matches the needs of trade—

The idea that all commercial bills could be discounted without harm because they would merely bring the amount of money into equilibrium with the "needs of trade" was the chief mistake of the banking school (Tooke,[7] Fullarton,[8] &c.). They failed to see

---

[4] According to Hayek (*Prices and Production*, p. 106) this is the view held by Marshall, Pierson, Edgeworth, Taussig, Mises, Pigou, Robertson, Hawtrey, Haberler, and Neisser. It has, however, to be added that a policy of rigid and high wages unaccompanied by credit inflation may produce frictions which are perhaps just as undesirable from the practical point of view as industrial fluctuations.

[5] Friedrich Bendixen, *Das Wesen des Geldes*, second edition, Leipzig and Munich, 1918, and by the same author, *Währungspolitik und Geldtheorie im Lichte des Weltkrieges*, second edition, Munich and Leipzig 1919, and also *Geld und Kapital*, second edition, Jena 1920.

[6] "Indeed, this book is a pioneer work which, as far as can be foreseen, will continue to bear fruit many decades hence" was what Alfred Schmidt-Essen wrote in his review of the first-mentioned book of Bendixen in *Schmoller's Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reich*, Vol. 43, Munich and Leipzig 1919, p. 368. He says further: "It was necessary for war to come before Bendixen's seed could germinate." The seed which this inflationist planted certainly did come up remarkably well a few years later.

[7] Thomas Tooke, *An Inquiry into the Currency Principle*, London 1844.

[8] John Fullarton, *On the Regulation of Currencies*, second edition, London 1845.

—is of no use.

—and this is a blindness which continues to afflict many contemporary writers of textbooks—that the demand for loans from the banks (which was confused with the demand for money) is dependent also on the conditions on which such loans are obtainable.[2] It has long been realized that in normal times the banks can cause, fairly quickly, a substantial rise in the total volume of bills discounted by lowering their interest rate and following a more liberal policy in respect to selection and rationing. It was because of this, i.e., because the volume of bills brought forward for discount is dependent not only on the "physical turnover of goods," but also on banking policy, that the whole question with which we are concerned here arose; the question as to what are the limits to which a credit expansion can go without giving rise to the danger of a subsequent depression.

It has been argued that any self liquidating credit for consumers goods increases is "healthy."

The doctrine of pure commercial credit has been elaborated in modern times by reference to the kind of goods against which the loans are made. Thus, while it is agreed that credit expansion which goes to finance the production of producers' goods and durable consumers' goods may lead to a crisis, it is held that an expansion of credit is harmless so long as it is "properly used." It is supposed to be "properly used" when the credits are applied to the financing of increases in the production of consumers' goods which do not require new fixed investments.[1]

This theory has its roots in the liquidity rules formerly preached by many banking theorists. (These rules related, however, to the lending of genuine short-term savings and not to new credit created by the banks.) According to Lederer "the granting of created credit as working capital for the production of consumers' goods"[2] is harmless and is in no way inflationary, because in this case "the credit would serve to cause income streams to be produced simultaneously with the goods, and these income streams serve to buy the goods. In so far as an immediate supply of saleable goods is forthcoming as the counterpart of the credits, and in so far as the credits immediately give rise to income streams, the consumption of the goods provides the means for paying back the credits."[3]

---

[2] On all this see Ludwig von Mises, *Theory of Money and Credit*, pp. 305 ff. The best defence of the ideas of the banking school is to be found in Valentin F. Wagner, *Geschichte der Kredittheorien*, Vienna 1937.

[1] Emil Lederer, *op. cit.*, p. 522.

This view neglects probable repercussions on capital goods industries,—

—via the capital market,—

The view that the expansion of credit for financing the production of consumers' goods will not lead to disproportionalities of the kind associated with inflation can be disproved by the following argument. *Either* the consumers' goods industries would have borrowed on the money market, or the capital market, in the absence of any expansion of bank credit, in which case the satisfaction of their demand for funds by means of the credit expansion obviously implies that there is so much less pressure on the credit market, and that some producers' goods industry, which would not otherwise have obtained credit to finance an expansion, will be enabled to do so by this means. As a consequence the eventual results of expansion (boom and depression), which Lederer also admits in general, will appear. *Or* the consumers' goods industries would not have had any incentive to extend production in the absence of the credit expansion; in this case the fact that they now enter the market for producers' goods with relatively increased buying power as against all other industries (which are supposed not to obtain credit directly or

---

[2] *Ibid.*, p. 519.

[3] *Ibid.*, p. 520.

—or via shifts in demand

indirectly) may lead to a change in the distribution of productive factors involving a shift from the stages far from consumption to the stages near to consumption. In this case disturbances in the producers' goods industries, as described above, may occur without being preceded by the boom phase of a trade cycle. In a later section (§ 98) we shall show that the second alternative is not to be taken very seriously and that the first possibility is by far the more probable.

Thus, it seems that the likelihood that a credit expansion will be crash-proof is not increased by the fact that loans are made to selected industries on the basis of certain rules about liquidity.

Many guides for crash proof monetary policies have been developed.

82. In recent years[4] there has been a rapid growth in the literature on the subject of what kind of credit policy is least likely to produce crises. The discussion of the criteria and "guides" of credit policy shifted to an entirely different plane once it was realized that "stable money" and "neutral money" imply different monetary policies. To-day, all the better grade textbooks contain quite a lengthy catalogue of possible guides to credit policy: stable cost of living, stable wholesale price level, stable factor prices, stable "general prices" (including services, rents, and securities), constant volume of money (including checking deposits), constant "effective" circulation, constant total money income, stable level of employment, are the main items in the list. To discuss and compare these various guides would take us far away from the main topics of this book. It is, however, not irrelevant to make a few observations on one index which is receiving increasing emphasis as a criterion for credit expansion, namely, the existence of unemployment.

---

[4] This section did not appear in the German edition which, it may be recalled, was written in 1929-30.

Credit expansion reduces unemployment if money wage rates do not rise or if they lag behind

It is practically indisputable that unemployment can be diminished by credit expansion provided simultaneous increases in money wages are prevented, or provided at least that such increases lag behind the tempo of the credit expansion. What is open to doubt, apart from the question of whether such a wage policy is likely to be pursued, is only whether the expansion of credit which is undertaken in face of unemployment contains the seed of a reaction or not. (To answer this question in the affirmative does not imply that one disapproves of credit expansion unconditionally.)

But is such expansion not liable to reactions?

Credit expansion for the purpose of financing private investment will have slim chances so long as the prospective rates of return continue to be negative. If it is considered too long to wait until the anticipated rates of return become positive, all that is practicable is an expansion of credit for financing public works.[5] But whether it is private or public investment that is concerned, the credit expansion which is undertaken in order to finance it, will necessarily produce changes in relative prices and changes in the structure of production. The question we have to ask is: Do these changes lead eventually to an "untenable situation," and consequently to a reaction, in spite of the fact that unemployed labour was available for investment?

In its original formulation the Mises-Hayek theory started out from a state of full employment and on this basis it was possible to argue that an investment inflation will draw productive factors away from the stages of production near to the consumers' goods end,

---

[5] I dealt with this topic in more detail in my note "Zur Frage der Ankurbelung durch Kreditpolitik," *Zeitschrift für Nationalökonomie*, Vol. IV, 1933, pp. 398-404.

The dialection arguments were based on the assumption of full employment

and that this situation is not tenable in the long run and is bound to lead to a reaction. It was easy to challenge this thesis of the "distorted structure of production" by arguing that it becomes inapplicable if there is a supply of unemployed factors.

Disappearance of involuntary unemployment has been suggested as marking the limit of "healthy" credit expansion

This argument finally led up to Mr. Keynes' proposal that the complete disappearance of involuntary unemployment should be regarded as the proper limit of credit expansion. Up till the time when "full employment" has been reached, Keynes sees no particular dangers in the financing of increased investment by means of credit creation. "When full employment is reached, any attempt to increase investment still further will set up a tendency in money-prices to rise without limit, ; i.e., we shall have reached a state of true inflation. Up to this point, however, rising prices will be associated with an increasing aggregate real income."[6]

The mere fact that Keynes confines the term "true inflation" to that increase in the circulation which is not accompanied by any increase in production is merely a change of name. A definition does nothing to alter the substance of the matter. The question whether an expansion of investment financed through a credit expansion is likely to produce an unstable situation long before full employment has been reached is not decided merely by refusing to call such an expansion "true inflation." Keynes, however, really believes that it is possible to perpetuate the boom,[7] so long as private investment is continuously stimulated by means of cheap money and is supplemented and, if necessary, even replaced by public investment.

Easy money for private investment, and, if necessary, its replacement by public investment, are postulated in order to secure perpetual prosperity

Before considering whether such a policy is practicable in the long run, let us see what its implications would be Given the willingness to offset *every* deficiency of private investment activity by public investment, the sense of the concept "crisis" is of course changed After all, it is the contraction of private investment activity from a relatively high level to a much lower level, and the causes and consequences of this contraction, which form the main part of the subject-matter of cycle theory. The main point which required to be explained was why the upswing, however initiated, should necessarily lead to a situation in which it became impossible or unprofitable to keep private investment going on the previous scale A scarcity of money capital, a contraction of demand, a rise in costs, an increase in the risk estimates, were only a few of the factors that were adduced in explanation of this point Naturally, one may say that there would not be any decline in aggregate investment if any gap that arose were always filled by public investment without regard to the profitability of that investment, that is to say, if the demand, cost, and risk elements in investment could be neglected and if the necessary money capital were provided by the commercial banks and the central banks in unlimited quantities But this only shelves the problem it does not solve it

---

[6] *The General Theory of Employment, Interest, and Money*, pp 118 and 119.

[7] *Ibid.*, p. 322.

The real problems of cycle theory demand, cost, risk, capital supply,—

—are all whisked away by the public investment "solution."

To aim at correcting a situation through a temporary dose of public works is one thing It is another thing to aim at guaranteeing full employment all the time by undertaking public works at whatever level may be necessary to maintain investment at a given level. In the first case, the authorities concerned hope by their intervention to correct the situation in such a way as to create more opportunities for investments that are profitable on the basis of cost-price relationships In the second case, the significance of cost-price relationships for the functioning of the existing economic system, and for the determination of capitalistic production plans, is cast to the winds. To judge the direction and extent of investment and production according to whether it will pay, that is, whether the undertaking is justified by the relations between costs and prices is, however, something more than a mere liberal-conservative prejudice.

Inflation by public investment to compensate for deflation by private hoarding may be sound

It has been shown (§ 78) that an inflation by public investment can be justified as a compensatory measure for a deflation due to private hoarding. If it can be demonstrated that deflation due to hoarding is on the increase, it will appear appropriate to speed up the public investment inflation. (The public investment will in this case be designed to prevent the decline in money income which Keynes fears will arise from too small a propensity to consume.) Inflation of public investment which exceeds the deflation due to private hoarding and which therefore causes money incomes and costs to rise is quite another matter. It is very probable that the private investment activity, which is first stimulated by the artificial increase in effective demand, will collapse as soon as the public investment inflation is checked. It is even likely that private investment activity will decline under the influence of unavoidable increases in costs, if the public investment inflation is kept going for a long period at a constant rate. And this makes it very probable that the attempt to reach and maintain full employment by means of a public investment inflation would involve increasing rates of inflation which would almost certainly lead to an eventual collapse.

Public investment inflation in excess of private hoarding, raising incomes and costs, is likely to lead to a reaction before full employment is reached

All leading economists (with almost no exceptions) are of the opinion that, in general and under given conditions, an increase in employment is only possible if there is a (temporary) fall in real wage rates. (A wage policy based on the immediate adjustment of

Different goods are produced if only interest rates, instead of both interest and wage rates, are lowered—

—and this may have a bearing on the question whether production can be maintained without a setback

wage rates to the rise in prices would make every net expansion of credit a "true inflation" in Keynes' sense.) Keynes believes that a fall in money wages can lead to an increase in employment only through a concomitant fall in interest rates, and that the fall in interest rates would have the same effect without a fall in money wage rates.[*] Does Keynes really believe that with an interest rate reduced to 1 per cent. and a wage rate of 60 cents per hour, the same things will be produced as with the 1 per cent. interest rate and a wage rate of 50 cents per hour? I do not believe it. And I believe that the decision as to *what* will be produced is of decisive importance in determining whether or not the production can be maintained in the long run.

Labour is not the only factor of production: other factors may be drawn away from other uses.

If labour were the only factor of production necessary for the forced investment, then, given unemployment, investments could be carried out without affecting other branches and stages of production. This is not the case. There are always things whose supply is so scarce that the forced investment must have some adverse effects on, that is to say, withdraw factors from, other lines of production: this is bound to contribute later towards a more or less painful reversion in the alterations of the production structure.

83. We may summarize the conclusions of the last sections by saying that movements of the price level, the volume of commercial paper, the production of goods in general or of consumers' goods in particular, and also the existence of unemployment, give us no measure of the extent to which credit expansion may proceed without resulting in a crisis. We found that the limits to which a credit expansion can go without producing a crisis may be (theoretically fairly clearly) defined as follows. The expansion may go just so far

---

[*] *Op. cit.*, p. 266.

as is sufficient to offset deflation due to spontaneous hoarding or to the increase in the number of holders of cash and in the number of pockets and accounts through which payments have to pass, and under certain circumstances it may go so far as to give "money in advance" against the voluntary savings of the immediate future. Only if and in so far as we are able to point to some practical indices of these factors which set the proper limits of a "healthy" credit inflation, can we say that there is unqualified justification for a policy of expanding credit.

If the credit expansion exceeds the limits mentioned, we have to allow for the probability of a set-back. Probably there will be many politicians who will estimate the danger of the future reversal as a lesser evil so long as the credit expansion helps us to surmount other present economic or political difficulties. This is not what we are discussing. We have confined ourselves to the question of the limits to which a credit expansion can go without causing those "cumulative-reversive" movements which form the essence of cyclical fluctuations.[5]

The danger of a set-back inherent in an expansion beyond the limits discussed is often considered a lesser evil than prolonged slackness.

Our conclusions make it easier for us to find answers to two questions which are relevant to our main discussion. (1) Are the "proper" limits of inflation (that is, the limits of credit creation which if passed will cause disturbances in the economic process) moved farther up or lower down, and (2) are the consequences of inflation likely to be milder or more severe, according as the created credit takes the form of loans to industry on the one side or loans to the stock exchange on the other?

Has the quality of credit any bearing on the 'proper' limits of inflation,—

—or on the penalties resulting from excesses?

The first question meets with two diametrically opposed views. The one, according to which the stock

---

[5] See Gottfried von Haberler, *Prosperity and Depression*, Geneva 1937.

Are the limits narrower or wider for stock exchange credit than for other kinds of credit?

exchange "ties up" credit, implies that the proper limits of inflation are reached later in the case of loans to the stock exchange than in the case of loans to industry, the other, which argues that stock exchange credit is used "more intensively,"[1] or that it is more likely to be invested in fixed capital, implies that the limits are reached earlier in the case of stock exchange credit than in the case of loans to industry.

Apart from the quantitative credit control which is incidental to qualitative discrimination,

In reality, however—as will be demonstrated—it makes no difference, from the point of view of the "proper limits" of inflation, what kind of credit is given. Neither the duration of the loan, nor the purpose for which it is visibly (i.e., apparently) used, can deprive a credit expansion which goes beyond a certain point of its inflationary character. (It is, of course, another thing if strict provisions and conditions relating to the duration and the purpose for which the credit may be used by the borrower, have the incidental effect that they restrict the *volume* of borrowing. Here we are considering whether the duration and purpose of a *given* quantity of credit has much to do with its effects.)

—our questions require examination of the nature of long term and short term capital,—

There are probably a good many optimists who, on the basis of the maxims of practical banking, believe that loans granted for investment in working capital are less dangerous than loans granted for investment in fixed capital, and that a larger dose of the first may be risked than of the second. In the next chapter we shall call attention to certain serious misunderstandings as to the nature of working capital and fixed capital, and shall later show also that the effect of an increase in credit is hardly ever dependent on its form. Anticipating these findings, we may for the moment repeat that the "proper" limits of credit expansion are not affected by the nature and quality of the credit.

---

[1] Felix Somary, *Bankpolitik*, second edition, Tubingen 1930, p. 44.

The second question relating to the effects of inflation is less significant once we have answered the first. One can never know whether an increase in credit granted for purposes of financing working capital, even if it is used according to the conditions prescribed, does not mean an increase in the amount of credit used for financing fixed capital in the system as a whole, for every increase in the supply of credit permits the fuller satisfaction of the aggregate demand for credit and therefore makes it possible for some borrowers who were previously excluded from the market by the competition of others, to satisfy their demand for credit. Who can tell what kind of demand for capital will be exerted by those entrepreneurs who were previously unable to borrow on the credit market but who now become the "marginal borrowers"[2] in consequence of the easing of the market?

—and of the possibilities of controlling the uses to which credit is put

This scepticism as to whether we can tell exactly *what* is the eventual "final" use to which new credit is put, shall not prevent us from analysing the results of the new credit *if* it is used in one way rather than another. For this purpose, however, we must first examine critically the existing views as to the "fundamental" difference between investment in working capital and investment in fixed capital.

---

[2] The demand for capital by the "marginal borrower" is dealt with in Chapter X, § 72.

CHAPTER XIII

WORKING CAPITAL AND SHORT-TERM LOANS

The business concepts "working capital" and "fixed capital" cannot be properly applied to general economics

64 The thesis that the distinction made by the individual enterprise between working capital and fixed capital, and more especially the reasoning on which the distinction is based, cannot be directly applied to the sphere of general economic analysis, is not a new discovery Unfortunately, however, there is a general tendency for concepts relating to the economic practice of individuals and firms to be misapplied to the analysis of the functioning of the economic system as a whole Almost universally "working capital" is treated as being something fundamentally distinct from fixed capital This view has had important practical consequences in connexion with banking policy: the credit policy which the banks have been urged to follow on "scientific" grounds has laid great emphasis on the difference between lending for investment in working capital and lending for investment in fixed capital

The individual entrepreneur regards as working capital that part of his capital which is released when he stops producing; fixed capital, in contrast, remains tied up even after he has stopped producing This aspect is highly significant from the point of view of the individual firm, and a statement of "current" assets and "current" liabilities, revealing the liquidity position of the firm, is also of importance to every individual lender. From the social point of view, however, the liquidity of working capital takes on a different aspect when we consider that the first entrepreneur's money capital can only be released if his "current assets" are bought by a second entrepreneur, that is if a second entrepreneur invests money capital. Looking at the matter from the standpoint of the system as a whole, then, the so-called working capital also remains "invested" even though it has been "turned over."[1]

The working capital of one firm is liquid only through the investment by another firm,—

It will sometimes happen that the partly finished goods turned out by one firm will pass on to another firm, be processed by it within one period, and then pass on again to a third firm, and so on, and thus travel through all the stages of production in the form of working (circulating) capital. It often happens, however, that the products sold by one firm remain for a number of processing periods in the firm which purchases them, thus becoming fixed capital. So, for example, the iron ore and coal, sheet-iron, iron girders, and machines, in possession of the mining industry, iron works, rolling mills, and machine shops respectively, are part of their working capital, whereas in the possession of the buyer, the machine becomes part of his fixed capital which will not be fully amortized until after a considerable number of processing periods. Thus whether the working capital of the producers in the earlier stages can be liquidated, will depend on whether there is an entrepreneur ready to invest money capital for a number of years. It is difficult to see, therefore, what sense there is, from the social viewpoint, in counting the stocks of the iron works as part of "the working capital of the community," or in the maxim that this working capital should be financed by short-term credit.

—in some cases becoming fixed capital of the buyer

---

[1] An important factor both from the private and from the social point of view, is that the physical goods in which the working capital is invested will in all probability find a market at prices which do not involve any great loss, whereas the existing fixed capital equipment will usually be saleable only at a very much reduced price. The reason is that circulating and fixed capital goods have various degrees of "specificity," or shiftability to other uses.

It is widely held that working capital may safely be financed by short-term credit

Thus it is erroneous to say, as Philippovich does, that "short-term credit" serves "to provide circulating capital" and that it "arises from the requirements of the turnover of goods and is self-liquidating through this turnover."[2] The view that fixed capital should be covered by long-term credit, and working capital by short-term credit, is so widely held that anybody who challenges it cannot but feel that he is an isolated objector. The Dutch economist Polak remarks that "a division similar to that made by Philippovich is to be found in practically every discussion of credit problems,"[3] and Polak, a man who has a thorough knowledge of business organization as well as of economic theory, is one of the few who really sees the point. He says in this connexion. "Even if we can distinguish between fixed capital and working capital, the distinction has little sense for problems of the credit market."[4] It is true that in the case of fixed capital, when production is continuous and on a paying basis, the money capital invested for a long period returns gradually by way of amortization over a number of processing periods, while in the case of working capital the money capital invested in non-durable goods returns to the individual firm at the end of each period. But this says nothing about the duration of the "circulating flow of circulating capital" from the point of view of the system as a whole, which involves the whole process from the earlier stages of production to the last, right down to the moment when the product becomes ripe for consumption.[5]

The circulating flow of working capital through all stages of the production process may take a long time even if the capital nowhere has become fixed

---

[2] E v Philippovich, *Grundriss der politischen Okonomie*, Vol. I eleventh edition, Tubingen 1916, p 324

[3] N J Polak, *Grundzüge der Finanzierung mit Rucksicht auf die Kreditdauer*, Berlin Vienna 1926, p 42

[4] *Ibid*, p 43

[5] Similarly D H Robertson, *Banking Policy and the Price Level*, London 1926 p 44

85. In the last analysis a loan for financing working capital in a stage of production that is remote from the finished consumers' goods end has to be regarded as a long-term investment. From the standpoint of the system as a whole (not of course from the standpoint of the individual firm), the possibility of liquidating in the short run the working capital of producers' goods industries simply does not exist. Suppose a short-term credit comes from a short postponement of the expenditure of income on consumption. Then the productive factors released by the current curtailment of consumption are free for use in a productive process which will reach the stage of final consumers' goods not later than the time when the credit is withdrawn in order to be spent on the consumption that was previously postponed. The only appropriate use, then, for money capital which is lent only temporarily would be investment in strictly working capital in a production process which produces "goods of first order" by as direct a method of production as possible, that is to say, investment in consumers' goods industries which have a ready market and which can be expanded without any increase in the use of producers' goods. Consumers' goods industries which are dependent, on the other hand, on a large volume of intermediate products, that is, on products of early stages of production, would not be suitable short-term borrowers because an increase in production in those industries would either result in, or be conditional on, an expansion in industries in the earlier stages of the production structure,[4] and produc-

Even investment in working capital of consumers' goods industries may give rise to concomitant investment in earlier production stages tion which has to travel through many stages would not have reached the final stage by the time the capital lent at short term is withdrawn.

---

[4] If the partly finished products are produced exclusively for use in the consumers' goods industries concerned, the expansion of production of the partly finished products will be a *condition* of the expansion of production of the finished products. If the partly finished products have many uses, then the industries using them can expand immediately by attracting more of them away from competitors; in this case the industries producing the partly finished goods will expand as a *result* of the expansion of the industries nearer the final stage.

Theoretical analysis seems, then, to furnish the rule that temporary savings should not be used in any branch of production other than consumers' goods industries which are fairly independent of the output of earlier production stages; and this axiom fits in perfectly with one of the time-honoured maxims of banking policy, i.e., the liquidity rule which says that short-term funds should be invested in raw materials for consumers' goods. Polak gives a demonstration of this in the following instructive example: "The current production of tailored clothes, for example, requires at any moment a stock of raw cotton in the hands of traders, a stock of cotton, raw and in process, and of yarn, in the spinning mills, a stock of yarn, of semi-manufactured materials, and of cloth, in the weaving factories, and a stock of cloth in the hands of retailers. Capital is invested by the traders in the stock of raw cotton. This capital has been advanced at short-term by a bank which obtained it from new savings. Now when the savers withdraw their money in order to buy cloth, the retailer finds his stocks decreasing and orders new cloth from the weavers, the latter order new yarn from the spinners and the spinners have to replenish their stocks of raw cotton. In this way the demand exercised by the former savers indirectly causes a decrease in the traders' stocks of raw cotton in which their capital has been invested."[1]

Financing inventories of raw material for consumers' goods industries is the classic example of self-liquidating loans

In discussing Lederer's views at the end of the last chapter we explained that it was not permissible to apply this liquidity theory to the investment of newly created bank credit. The theory seems at first glance to apply perfectly well to the investment of short-term savings. New temporary savings would, of course, be used in the first instance to replace old savings that were being withdrawn. But what could the new temporary savings that were in excess of dissaving be used for? It is comforting to be able to think that at least some kind of investment in working capital appears to have been discovered which will serve as an appropriate outlet for a net increase in temporary savings. But even this source of comfort disappears as the result of further considerations (see §§ 97 and 98). It has been said that the only "liquid form of investment" is one which finances working capital for an increased output of consumers' goods industries without the use of increased quantities of goods of much higher order. It will soon become apparent that it is no easier to find such an investment for new short-term net savings than for newly created bank credit.

---

[1] *Op. cit.*, p. 155

Whether such investments are available for new short-term funds, requires further consideration.

86. We have pointed to some of the common errors regarding the nature of the short-term credit which is used to finance working capital. If working capital is to be distinguished from fixed capital by the fact that it can be amortized 100 per cent. in every processing period it must be remembered, *first*, that what is working capital at one stage may easily be transformed into fixed capital at a later stage; *secondly*, that working capital in the producers' goods industries has to travel on a long time-consuming journey before it is finally liquidated, even if it proceeds without becoming fixed in any stage; *thirdly*, that even the working capital in the consumers' goods industries is not an isolated short-term investment if the industry is concerned with the processing of goods produced in earlier stages. In all cases the increase in short-term credit which is apparently used to finance additional working capital will lead to the starting up of more roundabout production processes.

As long as the volume of output is to be maintained, "liquidated" capital must be reinvested,—

—hence quick repayment of loans depends not on the nature of their use but on the possibilities of corporate saving

The question of whether money capital invested will be returned earlier or later, or whether money capital will be released gradually or all in one lump by the partial or complete amortization of durable or non-durable goods respectively, is however an idle one, if we are considering the maintenance of production at an unchanged level. If a firm is to continue producing at an unreduced level, the fixed capital that wears out must be replaced and all the raw materials that have been used up must be replenished, which means of course that the depreciation allowances and the circulating capital must be reinvested. There will, it is true, be a continual release of money capital, but it will be for reinvestment purposes and not for the repayment of loans. In this point both the credit which finances fixed capital and the credit which finances working capital are alike: they will be "turned over" but they cannot be repaid as long as the scale of operations is being maintained, *unless* the firm is able to provide the necessary money capital out of its own new savings. But this is a factor which is totally unconnected with the character of the loan. The firm could repay only by ploughing back part of its net profits, that is to say, by replacing the borrowed capital by its own capital. The time required for such corporate capital formation to take place will in this case determine whether the borrowed capital has to be short- or long-term; the use to which the loan is put plays a minor rôle.

The proper field for short term credit is often said to be the financing of merely temporary capital requirements

While most writers on banking theory as well as practical bankers still link up the concept of "working capital" with the concept of "short-term credit," a good many experts in the banking field have come to the conclusion that the portion of the working capital of a firm, which is required permanently, should not be covered by short-term credits, and that only temporary capital requirements are the true domain of short-term lending.

The existence of short-term capital requirements in the economic system as a whole, and the possibility of covering them with short-term credits—frequently newly created by the banks—is taken as a matter of course by practically all students of economic problems. In fact few authors regard the problem of how such short-term capital requirements arise as worthy of consideration, and these few have contented themselves with a summary reference to "seasonal fluctuations." Almost without exception the literature on this subject has been confined to the periodic fluctuations in capital requirements experienced by the individual firm. The question whether the capital requirements of the *system as a whole* are subject to such fluctuations is nowhere dealt with systematically, but an affirmative answer is taken for granted without reflection. Examples of this way of treating this part of credit theory could easily be quoted, but they would run into many pages. The concept of "short-term capital requirements" of the economy as a whole has never been seriously challenged.

Do such requirements really exist in the system as a whole?

I found it curiously inconsistent that many theorists accepted the thesis that temporarily increased requirements of working capital ought to be met by an increase in short-term lending by the banks, while at the same time they held that increased bank credits would lead to a lengthening of the production period of the economic system. How could it be possible for the productive process to go through periodic lengthenings and shortenings during the year, and, further, how could it be explained that these periodic fluctuations in the length of the production process fit in with the "supply of waiting," or the supply of money capital available from "natural" sources?

Are there seasonal fluctuations in the length of the production period, or in the demand for, or in the supply of, "waiting"?

If the length of the production period (the depth of the structure of production) adjusts itself, as most economists believe it does, to the supply of money capital, should we not consider variations in the supply, and not in the demand, as the primary factor? And would it not, indeed, be difficult to claim the existence of exactly corresponding, seasonal short-term fluctuations in the community's level of saving?

87. There seems to be something wrong with the whole argument. Neither the alleged seasonal fluctuations in the community's supply of capital, through which the appropriate length of the production process is determined, nor the seasonal fluctuations in the length of the process itself, nor the fluctuations in the amount of capital employed, fit in with the traditional propositions of capital theory. I think, however, that it is possible to show just how this notion of fluctuations in capital requirements arose.

In a branch of production where the production process is being continually restarted (let us say daily), and continually concluded, and where products are being continuously sold to consumers, if output always remains at the same level, the demand for capital cannot fluctuate, no matter whether all the stages of production are integrated under one management or whether the production process is split up among numerous concerns. The matter appears to be different in a case where the process is not continuous (but fluctuates seasonally) or where sales are not made continuously (but fluctuate seasonally) or where the intermediate products do not pass continuously (but only at discrete intervals) from one stage to the next. It is here that the fluctuations in capital requirements, which we shall now investigate more closely, are supposed to take place.

Where production or sale are discontinuous, individual firms have fluctuating demand for capital,—

Let us suppose that for technical reasons connected with climatic conditions as in agriculture, entrepreneur A produces in such a way that the product matures not continuously but only once a year. Entrepreneur B takes over the whole of A's product at once but works it up only little by little; entrepreneur C takes over B's production for one quarter of a year at each quarter date, works it up, and transfers it in equal monthly instalments to a trader D who sells it continuously to consumers. If we assume in the first place that all sales take place against cash payment, then the money derived from consumers' purchases will accumulate for a time in the hands of D, the trader, who will transfer it at monthly intervals to C. The latter has to transfer his cash receipts every three months to B, who uses them to pay for A's product once in the year. If we watch the movement of the cash balances we find that A's cash holdings are at a maximum immediately after the sale of his annual crop and that he gradually invests these funds in the new crop. B gets paid for one quarter of the year's production each quarter date and will be able to keep one quarter of the money as cash holdings for nine months, one quarter for six months, and one quarter for three months. C's cash holdings rise each month and are used by him at the end of each three months. D's cash holdings rise day by day until he makes his monthly purchase. (In the case of entrepreneurs B, C, and D we have, for simplicity's sake, left out of account the payments for the cost of processing and handling the original product; these payments are irrelevant to the matter in hand.)

—but where everybody pays cash, large temporarily inactive cash balances accumulate in the hands of the firms.—

The stocks of goods of the individual units will behave in exactly reverse manner to the cash holdings. This follows as a matter of course from our assumption that every sale of goods is accompanied by cash receipts

—in each firm the sum of inventories plus cash will be constant.

and every purchase of goods by cash expenditure. So that whenever any entrepreneur makes up his balance sheet he will find that aside from profits the capital invested in his business is always at the same figure. He will, of course, calculate his capital as the sum of his cash balance and of the value of his stocks of goods.

The high cash balances are regarded as superfluous,—

The spirit of every modern business man will revolt at the idea of holding such an "unreasonably" large amount of cash. Why should D hold his money idle in his till for half a month, C a part of his money for one and two months, and B even three, six, and nine months, and A up to a full year, or on the average half a year? Surely these cash balances could be put to some productive use! But could they? Most people answer this question in the affirmative without giving much thought to it.

—but their use involves a lengthened investment period,—

Money can only be used productively *via* the employment of productive resources in a roundabout production process. In an economic system which is in equilibrium, all productive forces which can be put to uses whose values will cover costs, are fully employed, and the length of the roundabout process in which they are employed, is determined by the existing stock of capital equipment and the current supply of savings, that is by the proportion of income which is not being used for current consumption. The productive factors might perhaps be "more completely" utilized if they were employed in processes of production which are part of a lengthened investment period. Moreover, it may happen that certain productive factors could not previously be used for productive operations that would cover costs (because the factors' marginal productivity was smaller than the price demanded for them) and that these unemployed factors can be drawn into the process of production if dishoarding takes place just as if new credit is created by the banks. This likewise involves a lengthening of the period of production.

All processes of production can, in the long run, be kept going only to the extent that people are willing to wait for consumption. There is, however, no such willingness to forgo current consumption when firms that are working to full capacity suddenly decide to "utilize" somehow their temporary surpluses of cash. If it had been the habit that the cash balances of certain firms were allowed to accumulate at regular intervals in order to be kept in hand until needed for normal expenditure, and if then this habit were departed from and the temporary "surplus" cash balances were "utilized," they would have the same effect as an expansion of bank credit: they would lead to the starting up of longer production processes. This the allegedly desirable utilization of surplus cash balances which have previously been left temporarily inactive, is a kind of inflation (we may if we like call it an inflation of the velocity of circulation) and is likely to lead to over-investment. When temporary cash balances come to be regarded as superfluous and available for other uses, and when they can find short-term borrowers, the capital requirements of individual firms appear to be reduced.

—and it constitutes an inflation of the velocity of circulation

88. The possibility of utilizing temporary surpluses of cash in a way which is presumed to be productive but is in reality inflationary, is, as we shall see later, closely associated with the modern organization of bank lending. It is not, however, essential that the banks themselves should act as intermediaries for loans out of surplus cash reserves. (Indeed, the banks could act as intermediaries only in a cash-paying community but not in a cheque-paying community.) As the modern credit system developed, the amounts of cash

Trade credit and customers' advances largely reduce cash holding requirements, even without using banking facilities,—

(in hand and in the banks) which firms needed to keep, were reduced and the capital requirements of the firms were more and more reduced to stocks of goods. Fluctuations in these working capital requirements of individual firms, which appear to be conditioned by periodic rather than continuous movements of goods in process from one stage to the next, could then be compensated by lending between entrepreneurs in the same branch of industry. To return to our previous example where we supposed that the stocks of goods were moved forward from entrepreneur A via B and C to D, then the money capital necessary to acquire the intermediate products could simply be lent to the various entrepreneurs in rotation. And for this to take place it would not be necessary for the banks to do the lending, it could be done through the channels of trade credit and customers' advances between the firms concerned. For example, B could make advances to A continually throughout the year and these credits would be settled by the delivery once in the year of A's product. Further, B could deliver goods to C on credit and accept the latter's claims against D in payment.

Polak gives concrete examples to illustrate the way in which whole lines of production can be financed by a single entrepreneur (representing one stage in the line of production) who makes advances to his sources of supply and extends trade credit to his customers.* Polak does not see the inflationary character of the *transition* to such a situation. But he shows very well how the ups and downs in short-term capital requirements of the single firm (ups and and downs which, as we have seen, owe their existence to the credit system) are compensated for the whole industry, by "passing on" the short-term credits from firm to firm.[9] In the example we gave of a system in which all payments were made in cash, the assets in the balance sheet consisted of stocks of goods and cash balances which together made up a constant figure for each individual firm. Under a system of short-term credit, the constancy of the capital position in the balance sheet is effected through stocks of goods plus what is due from debtors minus what is due to creditors. If we look upon the debts and credits as being dependent on physical capital requirements we are easily misled into thinking that the fluctuations in the physical capital requirements of all individual firms are the only important phenomenon even with respect to the capital requirements of the economy as a whole.

---

* Polak, op. cit., pp. 49 ff. and p. 140. Polak shows how wholesalers often act to a certain extent as merchant bankers. If, for example, the traders hold large stocks of commodities after the harvest, finance their gradual sale by giving trade credit, and, as the sales proceeds come in, finance the next year's production by making advance payments to the farmer, all the "fluctuations in capital requirements" can be seen to have cancelled out.

—and the constancy of the firms' net capital is realized by inventories plus accounts receivable minus accounts payable

The stocks of goods shift forward, in the way described in the previous example, from one stage of production to another, and if they do not move continuously as on a conveyor belt but only at uneven intervals, usually conditioned by technical factors, then the stocks of goods in process can be seen proceeding on their journey with temporary accumulations and decumulations in the individual stages. It is, as we have seen, a result of the system of financing inventories by credit, that the accumulations and decumulations of stocks of physical capital goods, held by individual firms which control discrete phases of the production process, call forth fluctuations in the

Thus fluctuating physical inventories come to be the cause of fluctuating operating capital requirements of individual firms.

---

[9] The partial cancelling out of fluctuations in capital requirements comes about, according to Holtrop (*op. cit.*, pp. 130 ff.), through "tegenfluctuatie" and "medefluctuatie," i.e., through the serial nature of the requirements of the successive production stages of the same industry (in the vertical direction) and through the coincidence of minimum and maximum requirements in different industries.

capital requirements of the individual firms. There need not be equivalent fluctuations in the capital requirements of the industry as a whole. This becomes clear as soon as we analyse the case of an industry with vertical integration. The undertaking which embraces all stages of production will, it is true, experience sometimes a quicker and sometimes a slower movement of intermediate products from one plant or warehouse to another, but it will not experience flutuations in its total capital requirements provided production as a whole runs parallel with sales.

The fluctuations in capital requirements of individual firms do not cancel out in industries where production and consumption do not run parallel.

The lack of parallelism, in some lines of production, between production and consumption within the single production period (e.g., production and consumption of agricultural commodities) gave rise to the supposition that the fluctuations of working-capital requirements of individual firms will not necessarily cancel out in the system as a whole. So far, we have assumed that the working-capital requirements of individual firms were rotatory and therefore compensatory, and that their financing had merely the function of assigning a given volume of short-term credit in rotation to the different firms of the non-integrated industry. Polak, however, tries to show that the working-capital requirements of the economy as a whole also may be subject to periodic fluctuations, Polak's argument is so instructive that it is worth reproducing in full.

"We will suppose," he says, "that the sowing of some agricultural product takes place in March and that the harvest is bought by wholesalers in September. The article is processed in two successive factories which require three months each for finishing and marketing the semi-finished or finished product. Both the factories buy three months' supply of materials at a time. The retailers who sell the finished product to the consumers also buy every three months but

An illustration is given —

they sell continuously. We will assume further that both the harvest and the demand are the same each year and that they exactly balance each other.

"Under these assumptions it is evident that in March before the seed is sown the farmers have no stocks, the wholesalers still have half of the harvest of the previous year, each of the two factories has a quarter of that harvest, and the retailers still have a quarter of the harvest of two years ago. Three months later the farmers have the new harvest half-way to maturity, the wholesalers have sold one quarter of the previous harvest and now have one quarter left, the factory which does the first processing holds the quarter that was sold by the wholesalers, and the second factory has the quarter which had been held by the first factory in March, and the shops have that quarter which was then held by the second factory. The old stock of the shops has been sold to the consumers.

—which shows how inventory stocks move from firm to firm —

"And so the process continues. If we call the successive harvests a, b, and c respectively we can construct the following table:—

	March	June	September*	December	March
Farmers,	—	½c	—	—	—
Wholesalers	½b	¼b	c	¾c	½c
Factory of first processing	¼b	¼b	¼b	¼c	¼c
Factory of second processing	¼b	¼b	¼b	¼b	¼c
Retail shops	¼a	¼b	¼b	¼b	¼b

"If we take the amount of capital needed to finance

---

* It should be noted that the situation depicted here is that which rules in September *after* the harvest has been sold to the wholesalers, immediately prior to this sale the farmers hold the whole of c and the wholesalers have no stocks at all."

—and how total stocks of the industry may fluctuate throughout the year

one entire harvest as being equal to n, then we see that the aggregate stocks are never less than $1\frac{1}{4}n$; they rise to $1\frac{3}{4}n$ in September and fall back to $1\frac{1}{4}n$ in March; the reason for this movement is that production, unlike consumption, is not distributed evenly throughout the year."[1]

It is clear from this example that seasonal deviations from parallelism between production and consumption—because production can only take place at certain times in the year whereas consumption is distributed throughout the year, or because production takes place continuously while consumption is subject to seasonal movements—imply fluctuations in the aggregate stocks of goods in the economic system as a whole. But is it correct to take fluctuations in aggregate commodity stocks, that is stocks of capital goods, as being equivalent to fluctuations in the capital requirements of the whole economic system?

Fluctuations in stocks of capital goods are not equivalent to fluctuations in the capital requirements or in the capital supply of the whole economy

89. There are technical conditions on the production side, and consumers' habits on the consumption side, which make it evident that even under the assumption of a completely stationary economy, i.e., the continual repetition of the same economic process, the stocks of goods of the system would be subject to fluctuations within the production period. But it is a mistake, in my opinion, to identify these fluctuations in stocks with fluctuations in the capital requirements of the system or in the capital supply of the system.

The maintenance of a given level of production requires a fixed supply of capital and therefore a fixed distribution of gross income between present consumption and provision for the future. This cannot be affected by the circumstance that many products mature at certain times of the year and are consumed at other times. Why should this circumstance—under the condition that the level of production is being kept constant—cause fluctuations in the aggregate demand for money capital?

---

[1] Polak, op. cit., pp. 50 ff.

If fluctuations of this kind do occur, this only goes to prove that some time in the past there has been dishoarding of cash balances which implies that money capital has been used twice over, so to speak, in order to expand the volume of production. With a given volume of circulating media and given habits of payment, the decision of the income recipient about the way in which he wants to use his gross income will determine the "natural" supply of money capital. If a seasonal decline in stocks of goods causes a seasonal accumulation of (temporarily) inactive cash balances at certain points in the system, this will not signify any change in the supply of money capital. If these cash balances, which previously have had their regularly recurring "rest periods," are not given their usual rest period and are instead "put to use" by lending, this will mean that they are being used twice over. And this will be equivalent to the creation of an additional supply of money capital by the banks with the familiar consequences leading to a disturbance of equilibrium.

A seasonal decline in stocks would cause a seasonal accumulation of inactive balances; if these are dishoarded, the supply of money capital is inflated, and seasonal fluctuations in capital requirements emerge

The point may be stated in more concrete terms as follows. Assume that a certain product is produced continuously but is bought by the consumers only in winter. This circumstance causes an accumulation of stocks in the summer and autumn months and a decumulation of stocks in winter. The selling out of these stocks leads every winter to the periodic accumulation of large cash balances in the hands of the seller; the sales proceeds of a few weeks return to the entrepreneur his whole money capital, which he will need for only gradual reinvestment. No productive resources are released anywhere, nobody has refrained from purchasing either consumers' or producers' goods

The surplus cash balances in times of seasonally low inventories do not imply that productive factors have been released —

—the lending out of these funds gives command over factors of production —

—bank loans may take care of temporary shortages of funds,—

—and the boom goes on until it breaks.

If the entrepreneur now deviates from his previous practice and lends his surplus cash on the credit market, his money capital will be used by another entrepreneur to finance other new productions. This means that this other producer is given command over productive resources which were previously at the disposal of the "liquid" entrepreneur, and the latter (or some other producer in his place) would correspondingly have to contract or stop his production. If, however, the modern credit system supplies this entrepreneur with new "short-term funds" in order to finance his "merely temporary capital requirements" next time they arise, or lends "short-term funds" to the other entrepreneur so that he can repay his loan, the effect is that command over the same productive resources is given twice over. It is obvious that in the long run this situation cannot endure and that equilibrium can be re-established only after the expansion of the more roundabout production processes has been followed by contraction associated with the usual phenomena of the crisis.

Seasonal increases in the demand for short-term capital in the system as a whole is thus due not merely to seasonal fluctuations in the stocks of goods but to the existence of a credit system which enables entrepreneurs to make do with a smaller amount of business capital than would otherwise be the case. The fact that an industrial expansion goes hand in hand with a "tight" money market is a sign that money capital is already being used twice over and that production processes are already being started up which, most likely, cannot in the long run be maintained. The individual entrepreneur would not, however, undertake the risk of such operations if he could not rely on the banks and their readiness to lend Entrepreneur

The lending of temporary surplus balances is made safe by the preparedness of banks to substitute their loans on critical days.

M would refrain from lending his temporary surplus cash to N for fear that he might not be able to get his funds back at the right time: similarly entrepreneur N would refrain from borrowing short-term funds from M because he might not be sure of finding a new lender at the time when he had to repay them. Entrepreneur M would have his seasonal surplus of cash which he would be unable to lend out on the credit market because the short-term nature of the credit would make it impossible to use it in production. And funds which could not be put to any productive use would not find borrowers ready to pay interest on them. And *vice versa*, the fact that short-period surpluses of cash can be lent out at interest may be taken as another proof that they are used in production even if they are by their nature inappropriate for any such use. It is due to the banks that these funds can be so used. Firstly, the banks by concentrating surplus funds are able to widen the market for them, and secondly, they are able to step in by way of an expansion of their own credit when the possibilities of further loans out of commercial surplus cash balances have ceased to exist.

90 This rather cursory formulation of my views about short-term capital — views which diverge markedly from the prevailing doctrine—is liable to give rise to misunderstandings. Some readers may have supposed that I look upon the mass of funds which are lent out at short term as liable to generate a crisis. This is not my view.

First of all, it is clear that new credits which merely replace or renew old ones are not disturbing factors; on the contrary, disturbances would result if the old credits were not replaced by new ones. This applies

It is only the increased lending from temporary surplus balances which is inflationary; the customary volume of such loans is necessary for stability of production

just as well to bank credit as to credits granted out of existing cash balances. Whatever the effect of such credits was when they were created, once the economic system has adapted itself to a given volume of credit created by the banks and credit created out of surplus balances, the maintenance of this volume of credit is necessary in order to keep production at a stable level. It is the creation of *new* bank credit and the *changes* in the habits with respect to the holding of cash balances which are the agents of dynamic change.

We must not confuse a discussion of comparisons between various situations with a discussion of the transition from one situation to another. We may compare the situation in which all firms hold surplus cash balances during their seasons of low inventories (e.g., after seasonal sales of their products or before seasonal purchases of their materials), with the situation in which firms make short-term loans to other firms or pay seasonal debts to other firms as their own inventories decline, and with the third situation in which firms borrow short-term bank loans as their inventories rise and repay the loans as inventories decline. In the first of the three situations the quantity of money (including checking deposits) is constant while its velocity of circulation undergoes seasonal fluctuations, in the second situation these seasonal fluctuations in velocity of circulation are diminished and the average velocity is, of course, higher than in the first situation, in the third situation it is the quantity of money which has its seasonal fluctuations. If the stock of goods in the economy as a whole undergoes seasonal fluctuations, there must be either seasonal fluctuations in velocity (through seasonally inactive cash balances) or seasonal fluctuations in the quantity of money (through seasonal repayments of bank loans). The one situation is in

If inventories in the economy fluctuate seasonally either velocity of circulation or quantity of money must fluctuate seasonally

The two cases are equivalent, but the transition from the former to the latter is inflationary

principle no worse and no better than the other. The transition, however, from one situation to another will have effects of a "dynamic" nature. In particular, the transition from one situation in which firms hold larger cash balances the lower are their stocks of commodities, to a situation in which they lend out their cash balances on short term, will have the inflationary effects already described.[2]

But even in the case of new credits granted out of surplus balances[3] it is necessary to distinguish whether the liquidity of the firm is merely a function of the normal sales rhythm or whether it is the result of a contraction of production. If the firm with the continuous production and seasonal discontinuities in sales, and the firm with the seasonal discontinuities in production and continuous sales, and all firms which are intermediate between these two types, show periodical fluctuations in the size of their cash balances, then the decision to lend out these funds has an inflationary effect, so long as the firm which owns the funds intends to maintain production at an unreduced level. It is not inflationary, however, if the funds were released because the firm had decided to contract production. In the first case the lender transfers purchasing power without intending to give up its use in his own business; he plans to use it himself within the same period. In the second case the lender gives up purchasing power which he does

If surplus balances accumulate because of contracted production their lending out is necessary,—

---

[2] These last two paragraphs are an addition to the original text. I have inserted them because the exposition in the German edition gave rise to several misunderstandings. Valentin F. Wagner, in his *Geschichte der Kredittheorien* (p. 139), says, for example: "Machlup's thesis is that when temporary surpluses of cash are used to grant credit for financing working capital they represent always an expansion of the supply of credit which causes more roundabout production processes to be undertaken."

[3] Wagner, who has taken over the term "Kassenüberschusskredit," which I believe I was the first to use, speaks also of a "kassenmässige Kreditschöpfung," that is a credit expansion out of existing balances (*op. cit.*, pp. 140 and 156).

—or deflationary disturbances will ensue

not intend to use in his own business in the current period. If disturbances are to be avoided, the entrepreneur who is liquidating his working capital either by contracting or by stopping production will, of course, have to put it to some productive use, by lending to some other entrepreneur and so enabling the latter to dispose over the productive resources which have been released from his own business. This, however, is a case of a genuine "transfer credit" no matter for how long a term it is lent.[4]

Consumers' surplus balances can likewise be customary or due to postponed consumption; loaning out the former involves inflation, loaning out the latter avoids deflation

What has been said here about the cash balances of producers applies in a similar fashion to the cash balances of consumers. Let us assume that consumers have been receiving monthly salaries and have been used to keeping part of the funds destined for their personal use during one, two, or three weeks. They now begin to lend these funds out at interest for the short time before they need them. This represents lending which is by its nature inflationary. For, in this case, the purchasing power which is lent out is part of what the lender intends to spend himself. The circumstance that it was usual previously for the purchasing power to be kept waiting some time before it was used, did not mean that goods or productive resources had been released for use elsewhere. The funds of our salary recipients can, however, be lent without exerting an inflationary effect, if these income recipients have really decided not to spend them in the forthcoming period, perhaps because they want to save up for large items of expenditure at a later date.

---

[4] I use the term transfer credit if the purchasing power accruing to the borrower is counterbalanced by purchasing power forgone by somebody else, such as a voluntary saver or a disinvesting producer. My term "transfer credit" corresponds to Mises' term "commodity credit." For Mises' term "circulation credit" I have substituted the term "created credit," which clearly conveys the meaning that the purchasing power accruing to the borrower is not counterbalanced by any purchasing power forgone by anybody else.

If consumption is postponed for a period of time such that goods or productive resources are really released, then the case is one of "transfer credit" notwithstanding the short time for which the credit is available.

Transfer credit based on a true short-period postponement of consumption is of considerable importance in practice. The fact that from the point of view of the individual saver it is only intended to be a short-term loan does not limit the possible ways of using it as much as one might first think. For even though the individual savings are only saved for a temporary period, collectively they may in large part be looked upon as long-term savings of the economic system. In most cases the temporary saver who withdraws his funds in order to make the purchase that he had previously postponed has a successor who is just saving part of his income for later use. The probability that the new savings will be sufficient to cover withdrawals of old savings is what makes it possible to invest these short-term funds in production. The system whereby this investment is made through the stock exchange has special advantages, for in this case the transformation of what are short-term credits from the private viewpoint into long-term savings from the social viewpoint can take place to the fullest extent, and if, when the temporary savings are withdrawn, there is no new saver to take the place of the old, the withdrawal will usually express itself not in a reduction of the capital supply but in a reduction of the consumption expenditure of the person who sells the securities at reduced prices.

Individual short term savings may be collectively long term savings

The practice of throwing all kinds of short-term funds into the same basket was bound to lead to confusion: it was usual to regard all types, without distinction, as being equally appropriate for lending

The temporary cash surpluses of firms were treated in exactly the same way as the temporary savings of the small saver, regardless of their economic origin and character[5]

In theoretical analysis, short-term funds must be carefully distinguished as to their sources and nature

All these short-term liquid funds were lumped together as the natural supply of credit on the money market, and commentators rejoiced at the abundance of short-term capital Thus it was argued that "if business men make short-term loans to each other out of their liquid balances and if funds which were being accumulated for spending on consumption are lent out until they are actually needed, there is a fuller utilization of the existing stock of physical goods of the economic system."[6] No qualification was added to such arguments to allow for a difference according to whether the short-term lending represented the continuation of an old practice or whether it came newly out of cash balances which had previously been kept inactive In fact, it was argued that if these temporary surpluses of cash were not lent out, "large stocks of goods would periodically become idle in consequence of fluctuations in working capital requirements."[7] This view is in harmony with what may be regarded as the accepted doctrine up to the present.[8] Against it we may argue that the "fluctuations in working-capital requirements" are a *result* of the lending of liquid balances and that the introduction or extension of such lending is liable to stimulate the "utilization of existing stocks of physical goods" to such a degree as to start up a boom which will later result in a crisis.

---

[5] Even Polak combines these two fundamentally different sources of funds under the term "static savings" (Polak, *op cit*, pp. 21 ff) The surplus balances of entrepreneurs which are drawn on to provide new credits for financing working capital are, as Wagner now also points out (Wagner, *op cit*, p 140), absolutely "dynamic."

[6] Herbert v Beckerath *Kapitalmarkt und Geldmarkt*, Jena 1916, p 74

[7] Beckerath, *op cit*, p 91

[8] Hans Neisser recognizes that "if working balances are lent out on short term" there will be a "tendency towards an increase in the velocity of circulation" (*op cit*, p 27) His attention was however centred entirely on the "effect on prices" (*op. cit.* p 30) He did not perceive the influence on production nor the problems connected with fluctuations in surplus cash balances.

Business surplus balances due to reduced production, and consumers surplus balances due to postponed consumption if loaned out represent genuine "transfer credit",—

—whereas surplus balances due to regular pulsations in the money flow, if loaned out represent "created credit

In order to judge whether surplus funds which are lent out at short term for financing working capital have the effect of avoiding deflation or of causing inflation, we must first decide whether they represent a transfer credit, i.e., a credit which is based on purchasing power of which the lender has renounced the use. This is so in the case of cash balances in the hands of business men when the balances have been accumulated as the result of a contraction of production, and in the case of cash balances in the hands of consumers where these balances are based on a definite decision on the part of the consumer to postpone consumption. On the other hand, liquid funds which used to be kept temporarily inactive and are now lent out and invested, must be regarded as inflationary. The expansion of the supply of short-term credit through the utilization of these funds which previously represented only latent purchasing power are bound to have the same inflationary effects as are associated with an expansion of bank credit.

91. Only a few authors have stressed the potentially inflationary character of that easing of the credit market which is brought about by the concentration of cash holdings and similar institutional factors. These few confine their attention to the effects on the value of money and do not consider the repercussions on the production structure. Menger, in his inquiry into the factors which determine price movements, analysed the institutions which tend to diminish the

demand for money by individuals and firms.[*] Mises went further and analysed the seasonal fluctuations in the supply of money and recognized the "increased demand for *money*" exercised by individual firms at critical payment dates as a real demand for *capital*.[1] Although Mises drew the consequences of his conclusions as to the effects of bank-credit expansion (and based his theory of the trade cycle on these conclusions), he omitted to consider the analogous effects of credits granted out of existing surplus balances and of a monetary policy which aimed at easing the money market at the dates when there were exceptionally heavy demands for cash.

Some more recent writers have dealt with the problem from the standpoint of the velocity of circulation of money,[2] but they analyse it solely from the side of monetary theory and do not inquire into its relation to the theory of capital and interest.

A remarkable flash of insight into the problem of short-term loans is to be found in Carl Menger's *Grundsätze* (published in 1871) in his discussion of the nature of capital. He specifically excludes from his capital concept any power of disposal over goods which does not last beyond the time which is necessary to complete the production of finished goods ready for consumption.[3]

Since there are no criteria in practice for judging the origin and character of any particular unit of money capital, we cannot say which funds represent

---

[*] Carl Menger, "Geld," in *Handwörterbuch der Staatswissenschaften*, third edition, Vol. IV, Jena 1909, pp. 605 ff.

[1] Ludwig von Mises, *Theory of Money and Credit*, pp. 314 ff.

[2] Hawtrey's comments on the significance, from the point of view of the trade cycle, of the utilization of idle cash balances appeared after the German edition of this book. See *The Art of Central Banking*, p. 171.

[3] Carl Menger, *Grundsätze der Volkswirtschaftslehre*, Vienna 1871, p. 131.

"genuine" capital and which not If the total supply of money capital includes funds which, instead of being "genuine" capital, come from some inflationary source, we do not become aware of this fact until a later date when they begin to manifest their effects in the form of maladjustments The same applies to the utilization of cash balances which had previously been inactive, at the time when they are used they become an indistinguishable part of the supply of money capital.

In actual practice there are no criteria for identifying the various parts of the total supply of money capital

A favourite approach to this problem is to accept the thesis that temporary surpluses of cash as well as commercial bank credits are not "genuine" capital, but then to justify the utilization of these short-term funds for increasing the supply of credit, by saying that while they should admittedly not be used as "capital," there is no harm in using them for "financing an increase in turnover." This position cannot be defended except in cases of an increase in "money work to be done," due to an increase in industrial differentiation, i.e., decline in vertical integration, or any other increase in the number of "stopping stations" in the circuit flow of money In all other cases an "increase in turnover" does not call for, but is rendered possible by an increase in the effective money supply An increased credit supply which "finances turnover" naturally finances the purchase of productive services The position which postulates new credits for new turnover (over and above mere compensation for new delays in the circuit flow of money) cannot be accepted on these grounds

The idea of "new short term credit for financing increased turnover of goods —

—confuses an increase in transactions with an increase in "stopping stations" in the money flow

(1) A new supply of active circulating media made available through the credit market constitutes also a new supply of money capital.

(2) What is loosely called "demand for money" of individuals or firms is in reality not a demand

for balances to hold but a "demand for capital"

(3) The money which is supposed to be lacking for financing a seasonal increase in turnover is often lacking only because it has been employed for expanding other production.[4]

The use of short term funds for working capital does not assure trouble free liquidation

We may sum up by saying that every increase in loans for financing working capital is likely to be used for lengthening the process of production in the system as a whole. The fact that a credit is used for purposes of financing more "working capital" does not give the slightest guarantee that the capital will be liquidated at the end of a short period,[5] or that it can be withdrawn without causing disturbances.[6]

---

[4] Valentin F. Wagner quotes points (1) and (2) and says that the view which they express is untenable (op. cit., p. 490). Wagner's objections are due to the fact that he has misunderstood me. He was under the impression that I considered credits granted out of cash balances as inflationary even when they had previously been lent regularly at a constant volume. What I argued was, of course, that credits granted out of cash balances were only inflationary if they raised the supply of credit above what was regular. Regular lending prevents the accumulation of *potential* cash surpluses and is not inflationary. New credits which are granted out of *actual* cash surpluses are inflationary on the other hand; they represent what is now generally called dishoarding.

[5] I have dealt with this problem in my article "The Liquidity of Short-Term Capital," *Economica*, August, 1932.

[6] To say this does not imply either any judgment as to the desirability of an increase in loans, nor does it pronounce anything about the liquidity of earning assets from the point of view of the individual lender.

CHAPTER XIV

THE MONEY MARKET AND THE TRADE CYCLE

92. Our analysis of the nature of working capital, and of the demand for short-term funds, brought us to a number of conclusions. The original purpose of our investigation was to make it easier for us to make up our minds about the controversy "business credit versus stock exchange credit." We shall defer the application of our conclusions to this problem until the next chapter. For the present we shall deal with certain by-products of our analysis. These by-products are, in my opinion, relevant to several problems, but especially to the theory of the money market and of the trade cycle.

There are three types of credit: transfer credit,—

The supply of money capital on the money market is drawn from a number of different sources. One of them is transfer credit which may take various forms and may originate in various ways: it may come from the short-term postponement of consumption, from long-term savings which are waiting for a suitable investment, from long-term savings whose owners are anxious to keep them in a form such that they can be withdrawn at any moment, from industrial capital which has been withdrawn from one line of production and is awaiting investment in another, from corporation profits which have not yet been distributed as dividends, from depreciation allowances which have not yet been reinvested, from the savings which became the proceeds of flotations of bonds or shares awaiting gradual investment, &c. On the other side

—created credit,—

—and credit from surplus cash balances, which has the appearance of the first but the effects of the second type

the banks provide a considerable amount of "created" credit, that is purchasing power which has been created out of nothing, which means that nobody has given up the use of that buying power which is accruing to the borrower. This type of credit is furnished in just the same forms as transfer credit, through discounting bills, call loans, various forms of advances, overdrafts, security purchases and so on. There is a third source of credit which is intermediate between these two sources, and which we discussed in the last chapter. This is credit which is granted out of liquid surplus cash reserves, either with or without the agency of the banks. So far as concerns the character of this type of credit, its place in the monetary circulation and its inflationary effects, it could be counted as "circulation credit" or created credit, but it has the peculiarity of bearing a deceptive resemblance to transfer credit, with the result not only that it is almost impossible to distinguish in practice but also that it has been fused together with short-term transfer credit in monetary theory.

It is this type of credit which gives rise to the much discussed seasonal easing and tightening of the money market, and has given the latter the stamp of being the unstable part of the credit market. George Halm, in his discussion of the problem of interest rates on the money market and the capital market, did not concern himself with created credit or with credit granted out of surplus cash balances, and, as he himself admits, this deprived him of the possibility of explaining "the important but difficult problems connected with the seasonal movement of interest rates on the money market."[1] What it also did, and this he failed to see, was to cause him to overlook the influences exerted by the money market on the course of the trade cycle; and all that he perceived therefore were the repercussions of the trade cycle on the money market

---

[1] Georg Halm, "Das Zinsproblem am Geld- und Kapitalmarkt." *Jahrbücher für Nationalökonomie und Statistik*, Vol. LXX, 1926, p. 121.

Credit from surplus cash balances may make for monthly and seasonal easing and tightening of the money market

The seasonal and monthly movements on the money market are directly attributable to the practice of lending surplus cash balances, i e, to the utilization of liquid funds Transfer credit may in general be looked upon as a stable element in the supply of money capital Credit which is newly created by the banks for accommodating commercial borrowers may be regarded for the most part as merely supplementing the loans made out of surplus cash balances It will usually come into play either at periods when these balances are not available (due to seasonal requirements, end-of-the-month and quarterly payments, &c) or when they have already been exhausted (due to the cyclical movement) Thus the unstable factor on the money market, both on the supply side and on the demand side, is the surplus funds of firms At those times of the year when commodity stocks are low, the cash balances of firms in a strong capital position flow onto the money market Since at these times the demand for working capital on the part of firms in a weaker capital position is low, there is no immediate outlet for the increased supply of short-term credit For reasons that have been explained above, the elasticity of demand for short-term credit, unlike that for long-term credit, is small, and interest rates on the money market consequently fall sharply Since there is practically no really "temporary" outlet for money capital that is only available for a short time, it is clear that there are no "short-term investments" available for all the cash balances that are offered on the loan market

The elasticity of demand for short-term funds is small

One outlet for the large supply would be in the other interconnected credit market, viz, the capital market, the market for long-term credit The method of con-

The monthly and seasonal oscillations of money market rates are not taken out by the securities markets

verting "short money" into "long money" which involves least risk for the person wishing to make the transfer, is as a rule provided by the security market. One might suppose that the low call rate would induce bears to "cover" their short sales, and that it would induce bulls to buy for the rise. Professional speculators are, however, more cautious than this. They know that the lowering of the call rate is only seasonal, and that this seasonal movement is a fact of common knowledge. It is therefore easy to see why the seasonal fluctuations in interest rates on the money market do not cause seasonal fluctuations in security prices. For, "if a seasonal variation in stock prices did exist, general knowledge of its existence would put an end to it."[2] Thus the conversion of the seasonal supply of short-term money into investment money through the stock exchange loans will not take place on a large scale before the boom is under way. And the direct utilization of seasonal surpluses of cash for making temporary investments in securities is not attractive before the boom comes, owing to the cost of buying and selling. For these reasons the capital market, where the elasticity of demand for money capital is high, will not reflect (and absorb), the fluctuations in interest rates on the money market.

If the entrepreneur were unable to find a borrower for his short-term surpluses of cash, and therefore had to resign himself to keeping the funds in his till or on his banking account, there would be no withdrawal of funds from the money market and no increased demand for short-money at certain periods when inventories are high, when the harvest is being moved and so on. If, however, some event or change in psychology in conjunction with the low interest rates on the money market induce entrepreneurs to borrow some more short-term funds, the next date when heavy payments become due or the next time when stocks are being moved, will cause a tightening of the money market. Because the tendency towards tightness at these dates is eased by the banks through the creation of additional credits, entrepreneurs do not feel any anxiety about providing for these heavy payments, and this has led to the lending and borrowing of "liquid" funds on the money market. We might also say then that it is the creation of credit by the banks which is at the root of the fluctuations, because if the entrepreneurs were not confident of obtaining help from the banks in case of need, they would not lend their cash balances to the money market for fear of becoming illiquid.

---

[2] Richard N. Owens and Charles O. Hardy, *Interest Rates and Stock Speculation*, p. 124.

Bank loans ease the tightness of the money market on critical payments dates —

Thus, while temporary surpluses of cash are the element in the supply which is the direct source of the monthly and seasonal fluctuations in interest rates on the money market, a necessary condition of these movements is the existing banking system. The apparent effect of the creation of credit by the banks is admittedly to mitigate the fluctuations on the money market, because bank credit fills the gap when the entrepreneurs withdraw their funds. Without the elasticity of bank credit, which is regarded as being so beneficial in this case, the fluctuations would at first be wider: in fact the tightness of the money market at the critical payments dates would become really "critical." But had experiences would soon lead entrepreneurs, for the sake of assuring their own liquidity, to refrain from lending out their temporary surpluses of cash, and so the direct cause of fluctuations on the money market would disappear. It is apparent, therefore, that the invisible effect of the elasticity of bank credit is exactly the opposite of the visible effect: mitigating the fluctuations and easing the difficulties

—they mitigate the fluctuations of the rates,—

—but thereby encourage the loans from temporary surplus balances which cause the fluctuations.

arising out of them means enabling the fluctuations or their causes to arise[3]

The statement that there can be inflationary credit which is no bank credit may be an eye opener for those who question the credit creation theory

93 The classification of credits granted out of surplus cash balances as a third type of credit, intermediate between transfer credit on the one side and credit created by the banks on the other, has a number of advantages. Lending out of temporary surpluses of cash balances is in principle possible without the agency of the banks. As most people have become accustomed to think of credit creation as being due solely to the banks, credit granted out of surplus cash balances is treated as transfer credit, despite the fact that nobody refrains from buying as this purchasing power is being transferred, and that this credit has just the same inflationary effects as credit created by the banks.[4] The fact that there can be inflationary credits which are not bank credit at all, may have an important bearing on the development of the theory of credit. A not inconsiderable number of students of the theory of banking, especially those who are connected with practical banking, still persist in arguing that the banks have no power to "create" inflationary credit, and deny even more emphatically that this bank credit has the place in the complex of causes of the trade cycle which is assigned to it in monetary theories of the trade cycle. Perhaps this opposition (to what is

---

[3] I do not mean to suggest here abolition of temporary bank credit expansion in economies which have become used to such practices, the deflationary effects of the transition would be too painful. A restriction in the sense of avoiding increases in the amplitude of the monthly or seasonal expansions would more nearly correspond in practice to the theoretical principle developed above.

[4] According to Mises' definition of "circulation credit" as loans where the lender does not give up any purchases and which thus do not involve any material sacrifice to him (*op. cit.*, p. 264), credit granted out of surplus cash balances would fall under this heading. Mises himself, however, understood by this expression only the circulating media which were issued by banks and bankers and expressly excluded deposits which were transferred through the agency of the banks as "investments of moneys which are not necessary for day-to-day transactions" (*op. cit.*, p. 270).

only a causal explanation but is often taken as an accusation of personal guilt) will decrease once it is realized that credit which is not granted by the banks at all may also have inflationary effects.

The way in which surpluses of circulating capital can be interchanged between firms, even without the agency of the banks, has been described already in the previous chapter. No long argument is needed to prove that the possibilities of transferring these temporary surpluses of cash between firms are multiplied by the operations of banks acting as intermediaries. What is meant here is not the fact that the substitution of time deposits for circulating media may create increased lending facilities (although this works in the same direction), but the circumstance that the concentration of the supply of temporary surpluses of funds allows them to be utilized more fully. This applies particularly to those countries where the use of cheques is still so undeveloped that the possibilities of credit creation by the commercial banks are very small. The "inflationary" interchange of cash balances between firms remains, from the point of view of the banks, apparently a purely transfer operation, and can, of course, not be treated as the creation of new money.

Neither the borrower nor the bank can know whether a loan transfers activates, or creates purchasing power

It is not possible in practice to identify a loan granted by a bank according to its origin. The borrower can never know the source of the purchasing power which he has been lent, and neither can the bank. It was originally believed that a bank could at least distinguish savings deposits from current accounts, and could accordingly lend the funds obtained by the former (time deposits) as transfer credit, and might be conscious of creating new credit on the basis of the funds obtained by the latter (demand deposits). Quite apart from the fact that at the present day the depositor is not guided by the character of his funds in choosing which kind of account to hold, this simple test is rendered useless by the circumstance that a deposit with a bank mostly comes through a transfer from a deposit held in another bank, and it is not possible to determine the origin of this deposit—whether it was a savings deposit or a current account or even an overdraft or new credit created by one of the other banks.

Theoretically there are three types of bank deposits —

A deposit of funds with a bank may be:

(1) a deposit on current account serving as cash balance to be drawn on currently;

(2) a deposit on current account (or savings account) serving as (an investment for) a temporary surplus cash balance to be drawn on after a certain interval according to regular tides of receipts and expenditures;

(3) a deposit serving as an investment for long-term or short-term savings or for the liquid capital of a firm which is either contracting production or not maintaining its fixed capital.

—practically they are indistinguishable.

And there is no way of telling which of these three purposes the deposit is intended to serve.

If each deposit bore an indication of the length of time for which it was going to be held, and these specifications really corresponded to the true nature of the deposit, then a deposit on current account of type (1) would be a typical demand deposit and the other two would be time deposits. New credits which the banks (all taken together) grant on the basis of an inflow of cash due to deposits on current account represent creation of credit. New credits which the banks grant on the basis of an inflow of cash due to deposits on time account represent transfers of credit. The additional credit creation increases the volume of circulating media. The credits which are not newly created by the banks, but only transferred through them, are not however all "pure" transfer-credit; this term properly applies only to funds deriving from new savings or newly disinvested capital, whereas the deposits of type (2) represent what we have called temporary surplus cash balances. Thus, although the credits granted from these deposit funds are not created by the banks, but only transferred by them, they are nevertheless inflationary in their effect.[5]

The position may be summarized by the following classification:

	I	II	III
NATURE OF DEPOSIT	Deposit on current account.	Deposit of temporary surplus cash balances	Deposit of new savings or liquidated capital
DURATION,	Demand deposit.	Time deposit.	Time deposit.
FUNCTION OF BANK,	Creation of credit	Transfer of credit	Transfer of credit
EFFECT,	Inflationary	Inflationary	Not Inflationary
TECHNICAL TERM,	Created bank credit	Credit out of surplus cash balances	Transfer credit

A monetary system which was intended to avoid any inflationary or deflationary move would have to ward off anything which involved any change in the supply of money—including demand deposits—or any diminution in the demand to hold money on the part of individuals and firms. The already existing volume of credit outstanding, which can no longer exert any kinetic effect on interest rates, would have to be maintained. (This view was put into practice almost a hundred years ago in Peel's Bank Act with its fixed

---

[5] By "inflationary" is meant not merely the visible effects on prices but all those influences on interest rates and prices which proceed either actually or potentially from the side of money.

Inflation and deflation could be avoided only if the reserve against active demand deposits and temporary surplus balances were 100 per cent.—

—and if the reserve against true savings deposits were zero.

fiduciary issue, although this was of course confined to bank notes.) Thus, the banks, supposing they had formerly kept an actual cash ratio of 10 per cent. against deposits, would have to consider the absolute figure corresponding to 90 per cent. of their deposits as a fixed volume of fiduciary lending, and keep a 100 per cent. reserve against all additional deposits on current account and all deposits of surplus cash balances, even if these deposits were kept at the bank as time-deposits.[6] Savings deposits on the other hand would, in the hypothetical case of congruence with respect to "duration" between the assets and the liabilities, require a cover of zero per cent. If on account of the intermingling of the three kinds of deposits the attempt is made to find some appropriate reserve ratio of between 0 and 100 per cent. for "deposits in general," the possibility of eliminating inflation or deflation is already gone. Even if only a fraction of the inflow of cash due to a deposit on current account were "lent out," in a system of many banks this would be capable of producing a progressive expansion of bank lending through the influence of "derivative deposits."[7]

What we know about the existence, the character, and the effects of new lending out of surplus cash balances, brings us to the conclusion that there are funds which do not differ in the least outwardly from credit deriving from the transfer of already existing purchasing power, but which nevertheless, if they are put to some "productive use," exert the same effect as credit newly created by the banks. Whether this additional supply of credit is utilized through the capital market or through the money market, whether the lenders follow strict rules about liquidity or not, whether they provide loans for stock exchange speculation or for the working capital of industry, a movement away from equilibrium in the economic system is made possible. Even the introduction of "certificates of origin" for deposits—which an ingenious believer in control might suggest—would not enable the banks to keep track of the true nature of their deposits.

---

[6] This statement to the effect that in order to avoid inflationary credit expansions by the banks, it is necessary to keep reserves of 100 per cent. against sight liabilities, made me one of the precursors of Professor Irving Fisher's "100 per cent. plan" (see *100 Per Cent Money*, New York 1936, p. 202). I was not, however, an advocate of the practical execution of the plan. As I explained in the text, there is no possibility in practice of distinguishing bank deposits according to their origin and character. The consequently unavoidable fluctuations in the velocity of circulation, the fluctuations in the coefficient of money transactions, and last but not least, mistakes in the monetary policy pursued by the authorities, would suffice to produce the continuance of cyclical fluctuations. What then would be the use of the radical abolition of the commercial banking system as is implicit in the "100 per cent. plan"?

[7] See Chester Arthur Phillips, *Bank Credit*, New York 1920, pp. 40 ff.

But, alas, we cannot identify the nature of deposits

94. It may seem a little surprising if we attempt to connect the same phenomena as were invoked in explanation of monthly and seasonal fluctuations on the money market with the theory of *cyclical* fluctuations. Nevertheless I think that it is not unreasonable to assume some such connexion. I am far from believing that it is possible to discover the "germ of the trade cycle" in this phenomenon, but I do think that it is possible to show that credit granted out of surplus cash balances is closely connected with the beginning of the upswing.

The monthly and seasonal money market fluctuations play a significant rôle in the trade cycle.

The "double utilization" of money capital which is made possible by lending from surplus cash balances, and the extension of roundabout methods of production to which such lending gives rise, would be doomed to a very short existence in the absence of other support: it could not survive the next date when heavy payments became due. What is a surplus

Loaned-out surplus balances are needed back on critical payments dates,—

balance at certain times is not at all "surplus" at other times, and if they have been put to some "productive use" in the meantime they are now *simultaneously* indispensable to both the lender and the borrower, or some third person to whom the funds may have passed. Whoever is forced to dispense with them has to go out of production, because he is no longer able to obtain the means of production. His exit from production paves the way towards re-establishing a state of equilibrium in the production structure.

—then their double life would be terminated,—

—were it not for the respite given by momentary bank loan expansion —

Disturbances of this kind are, however, still not *cyclical* movements. The movement away from the (theoretical) equilibrium in the upward direction lasts, as experience shows, for several years, and the movement back from the crisis through the depression to something near a new (theoretical) equilibrium again lasts several years. The movement which has just been described lasted no longer than a season—or even a month—because the tendency towards an extension of production was brought to a swift end by the advent of the next payments date. But what happens if the payments at this date are facilitated, i.e., if the economic system is spared "unnecessary" difficulties, by short-term lending from the banks? The extra heavy demand for money lasts only a short time, and then the harmless credits, having performed their task, will flow back to the banks. There has been fairly general agreement in financial circles, and among students of banking policy, that the economic system ought to be helped over these payments dates, and no small part of the efforts towards working out a scientific monetary policy in the last one hundred and fifty years has been directed towards overcoming or easing the periodic stringency at certain dates when heavy payments fall due. Even the worst enemies of inflationism favoured such a policy.[*]

When the funds, which were temporarily "superfluous" and were therefore invested, are needed at the payments dates, the utilization of funds "twice over" is bound to be frustrated. If, however, new credit is created by the banks so as to help the economic system over the critical days, then the use of funds twice over in production can be continued. All that is necessary to enable the "upward" movement of the economic system towards disproportionality in production to continue for a longer period of time, is for the banking system to give assistance at certain times of strain. The payments dates might to a certain extent be taken as indicators of the liquidity of the system or as a test of the adequate adjustment of capital supply and production structure. This test loses its meaning of course if bank credit provides the producers for the duration of the "inspection" with the necessary amounts of money capital.

—which helps over the liquidity tests on the critical dates.

Since the maintenance of the expanded volume of production requires not merely the continued use of the amount of credit once furnished, but the repeated administration of further doses (see the analysis given in Chapter XI), the continuation of the upswing will require increasing loans from surplus cash balances and will involve increasing stringency at the payments dates and increasing intervention from the side of bank credit to overcome it. It is clear, therefore, that the fluctuations in interest rates on the money market will soon become more marked than they had been previously. What Halm took to be the mere

The money market feeds industrial expansion which in turn makes increasing demands on the money market.

---

[*] David Ricardo in his *Proposals for an Economical and Secure Currency*, London 1816 recommended that in order to make it easier for end-of-the-month payments to be met, interest coupons (on the government debt) which fell due for payment on the first of the month should be given circulation rights

influence of the trade cycle on the money market is, as I see it, the *reaction* of the cycle on the money market, after the latter has furnished the "motive power" to the cyclical movement. The further the use of money market credit has progressed or the more intensively credit is being used in production, the heavier and more urgent will be the demand for credit on the money market at the critical payments dates. Thus Halm is right in saying that "The real shortage of capital at the top of the boom is a shortage of short-term capital disposition."[9]

The mere intervention of bank lending at end-of-the-month, quarterly, and other payments dates will of course not be sufficient to develop the upswing into a full-fledged boom. At a certain stage of the upswing it will be necessary for there to be a more vigorous and continuous expansion of bank credit in addition to the loans from surplus cash balances and the occasional intervention of the banks at the payments dates. But lending out of surplus cash balances is sufficient to give the initial motive power for business recovery. It seems to me a not unimportant fact that the starting point of the upswing is to be found not in an expansion of credit newly "produced" by the banks but in a "natural growth" of credit.

The start of the upswing can be financed through loans from surplus balances without bank credit expansion

95. A theory of the trade cycle which does not explain the continual recurrence of cycles as well as the course of the individual cycle cannot be entirely satisfactory. If we ascribe a rôle in trade-cycle causation to loans and disbursements out of surplus cash balances we must also try to analyse their rôle in causing the cycle to recur.

The turning point in the cycle comes, as we know, not because there is an actual contraction of credit at that point, but when merely a brake is placed on the further expansion of credit. The volume of circulation media which was augmented by the expansion of bank credit need not fall back, in the depression, to the previous level; equilibrium might be established just as well at the higher level of the volume of circulating media with a potentially higher price level. This is what usually happens in the case where the credit inflation derives from increased gold production: a new equilibrium position is eventually found with a larger quantity of money than before. According to many theories of the trade cycle it is necessary for there to be a new inflationary move—a new inflation by the central bank or a new gold-inflation—before a new cycle can begin. The same would be true of cycles which are started off by loans from surplus cash balances where these loans are not of a periodic or seasonal character but are based on a sudden change in the technique of payments. If as a result of a change in the habits of payment (e.g., improvements in collections, and expansion of the clearing system) or in the division of functions in the business structure (e.g., an increase in vertical integration in an industry), the demand to hold cash balances declines, the cash surpluses will not be merely temporary surpluses but permanent ones. Such a rise in the "efficiency of money" or increase in the velocity of circulation does undoubtedly contain the germ of a trade cycle, but the habit of holding reduced cash balances or the increased velocity of circulation will most likely become permanent parameters of the economic system.

---

[9] Halm, *op. cit.*, p. 27

If dishoarding takes place only once,—

—it can explain only one cycle but not its recurrence

None of these "causes" of the trade cycle explains the periodic recurrence of the cycle (at least so far as endogenous factors are concerned) but it is a different matter with temporary surplus balances. These cash balances are superfluous at certain times and not

The temporary surplus cash balances dishoarded at the start of the upswing, are set free again when the crisis is liquidated—

superfluous at others. A rise in the velocity of circulation of money due to the lending out of these balances need not be permanent. After the liquidation of the crisis the firms are likely to hold again those balances which they need at certain moments in their own businesses and which are "superfluous" during other intervals. Whereas in the case of many other factors in the trade cycle, the impetus which contributed to the upswing disappears with the conclusion of one cycle, this does not happen in the case of fluctuations in surplus cash holdings. Assuming that the loans and disbursements out of surplus balances together with bank credit served to finance the over-investment, then, when the depression comes and the undertakings which cannot be maintained are compelled to close down, the surplus cash balances will be set free again. As the process of liquidation progresses, the funds which were previously invested "twice" come back, and the general urge to sell out stocks and to defer all postponable purchases in the expectation of a further fall in prices makes it impossible to find a productive outlet for these free cash balances. It is easy to see then why it is that in times of depression, during the "liquidation of the crisis," interest rates on the money market hover just above the zero level.

It takes some time before the economic system gets the crisis and depression "out of its limbs." It is only after a certain lapse of time that the crippling feeling of uncertainty begins to wear off, and the risk estimates by potential lenders and borrowers gradually fall. When finally confidence has returned and the spirit of enterprise has reawakened, the firms which have accumulated large balances of cash during the period of liquidation find that these liquid funds are superfluous and that there are outlets for them. As

—they are thus free to finance another upturn.

soon as the "surplus cash reserves" have found "productive employment" the economic system is moving into the upward phase of the cycle

96 The introduction of surplus balance credit into the analysis of the trade cycle supplements modern monetary theory in two respects, namely, in

(1) that the start of the upswing can be explained without reference to an expansion of bank credit, and

(2) that the upswing can be explained on the basis of an expansion of bank credit of a much smaller magnitude than was previously assumed [1]

Both these circumstances go far to meet the favourite objections of those who still reject that theory of the trade cycle which stresses the expansion in the volume of money Mises' emphasis on the interest rate policy of the banks as the primary cause of the cycle was attacked by both bankers and theorists Many people found it difficult to accept a psychological factor on the side of bankers and monetary authorities as a satisfactory explanation of the periodic recurrence of cycles

Monetary cycle theory first held that inflation resulted from an increased credit supply by banks—

Hayek was able, without abandoning the main lines of the theory of credit cycles, to show that the money rate of interest may be below the equilibrium rate not because of positive action on the part of the banks but because there is a rise in the natural rate of interest unaccompanied by any rise in the money rate.[2] So, for example, technical progress, which creates increased investment opportunities and thus causes a rise in the natural rate of interest, may lead to increased borrowing from the banks. In this case the expansion of bank credit is not the result of active inflationism, as Mises considered it, but of passive inflationism. By a change in data in the economic system but without any action on the part of the banks, a money rate of interest which was previously in harmony with the equilibrium rate may become a rate that is conducive towards expansion.

---

[1] As has already been pointed out, Hawtrey has given expression to much the same ideas Owing to the utilization of idle cash balances which are the inheritance of the previous depression, "it may be that an enlargement of the consumers income and outlay is brought about with little or no expansion of the outstanding bank credit" (see *The Art of Central Banking*, p 171) He says further "Thus there is a principle of the instability of velocity of circulation, which is quite distinct from the principle of instability of credit, but is very apt to aggravate its effect" Both Hawtrey's and my treatment of these factors are given an excellent exposition in Gottfried von Haberler, *Prosperity and Depression* Geneva 1937, pp 18 ff and 62 ff

—later it was held that inflation resulted from an elastic credit supply by banks confronted with increased demand;—

However, Hayek's theory still treats the financing of the upswing as being exclusively due to an expansion of credit by the banks. The exposition given here on the other hand ascribes an even more passive attitude to the banks in the cycle; in fact, part of the funds used to finance the boom are seen as coming from quite another source of supply, viz., temporary surplus cash balances. Here the passive inflationism of the banks is at the beginning confined to giving assistance, if necessary, by increased lending at the critical payments dates, and does not assume the leading rôle until a more advanced stage of the cycle. The expansion of credit by the banks need enter in only at a later phase and to a smaller extent than was formerly supposed.

—in fact, inflation can result from surplus balances with only momentary and slight support by bank credit

---

[2] F. A. von Hayek, *Monetary Theory and the Trade Cycle*, p. 168. Similarly, Richard von Strigl, "Die Produktion unter dem Einflusse einer Kreditexpansion," *Beiträge zur Wirtschaftstheorie*, Part II, "Konjunkturforschung und Konjunkturtheorie," *Schriften des Vereins für Sozialpolitik*, Vol. 173, Munich and Leipzig 1928, p. 190.

CHAPTER XV

INDUSTRIAL INVESTMENT AND THE QUALITY OF CREDIT

97. We have still to give an answer to the question whether credit is liable to exert different effects, according to the purpose for which it is granted. It was necessary to clarify first the problems connected with the distinction between circulating and fixed capital. Now that we have progressed thus far, we may venture to comment on the effects of loans which are differentiated according to the kind of use to which they are put.

Are the effects of credit dependent on its use?

The answer is simpler in the case of transfer credit than in the case of inflationary credit. In the case of genuine savings it has been customary in the literature to inquire whether there is congruence between the duration for which the credit is granted and the duration for which the investment is made. We have already observed (§ 84) that from the point of view of the economic system as a whole, short-term credits can rarely be regarded as short-term investments. The division of functions in the productive process may cause what is from a collective point of view a long-term investment to take on the appearance of a short-term investment from the private point of view. If the demand for short-term credit predominates on the market, then the spread between the interest rates will tend to cause the available credit supply to take the corresponding form. If the demand for long-term credit predominates, then an increasing proportion of the available supply of capital will go through the

New short term credits usually mean long term investments for the economy as a whole.

stock exchange. The raising of capital through the issue of stocks makes the individual firm independent of the length of time for which the individual capitalist or speculator wants to invest his funds (§ 9). There has consequently been a tendency for industrial capital requirements to be financed to an ever-increasing extent on the securities exchanges, and the amount of industrial credit which has been obtained via the stock exchange is far greater than all other forms of credit.

After long depressions with no supply of long-term funds and no demand for short-term funds, securities markets often bridged the gap

At certain times (prior to the nineteen thirties) the securities exchange was the *only* channel through which credit flowed into industrial production. Towards the end of depression periods capitalists and financiers held back from all long-term commitments, and at the same time entrepreneurs, after their bad experiences of the crisis, fought shy of borrowing at short term for investment purposes. Thus there was for some time almost no supply of long-term funds to industry and almost no demand for funds on the money market. The link was often re-established via the securities market. The belief that funds invested through the securities exchange can be withdrawn in liquid form had the effect of causing the superfluity of funds on offer on the money market eventually to find its way onto the securities exchange, in the first instance, of course, onto the bond market. At this point loans to customers who wanted to make security purchases, and security purchases on their own account, were the only outlets which the banks had for the vast funds which they commanded. It was not considered permissible to make *direct* long-term loans to industry out of these funds, and there was no demand for short-term loans by industry. The only investment outlets which remained open to the banks, therefore, were security loans and security purchases, in other words, *indirect* long-term credits to industry.[1] (In recent years, of course, their place has been taken by the financing of public works and other public loan expenditures.)

Frequently credit, perhaps after a couple of transfer operations, will take whatever form is dictated by the demand. It is therefore rather idle to try to distinguish the effects of the credit according to the form and use originally intended. The length of time for which the funds are invested is likewise dictated by the demand, and as will be shown below, the term for which the credit is designed by those who originally supply it, is not what is finally decisive. Therefore a rise, followed later by a decline, in the amount of short-term transfer credit—no less than a credit-creation cycle—is capable of giving rise to marked disturbances. Even the most careful selection of borrowers cannot prevent this.

Term, form and use of the credit are not determined finally by the will of the lender

98. If one wished to distinguish the effects of a new credit according to the use to which it is put, one would have first to assume that without this credit the borrower concerned would not have succeeded in obtaining funds. This assumption is important because, if it is not fulfilled, the effect of the credit is entirely independent of the direct and concrete use to which it is put. For if this use would have been covered in the absence of the granting of this particular credit, the real beneficiary of the increase in supply is a borrower who was previously excluded from the market but is now able to obtain funds and who remains *in concreto* unknown (§ 83). It is important to assume also that the impetus comes from an increase

If the borrower would have obtained funds in any case, it is not he who is the actual beneficiary of the new credit in the supply of credit and not from an increase in the demand. (This assumption, however, detracts considerably from the practical importance of the question.)

---

[1] Cf. Woodlief Thomas, "Use of Credit in Security Speculation," *American Economic Review*, Vol. XXV, supplement 1935, p. 25: "Conversely, in periods of depression funds not needed by business customers found use in securities markets, with a stimulating influence on production and trade."

In accordance with these assumptions we may suppose that an entrepreneur receives a loan for productive activity (or for an expansion of productive activity) which he was unable to carry out previously for lack of the necessary money capital. Now that he is equipped with the money capital, the entrepreneur will be able to attract the means of production (original factors as well as intermediate products) to his enterprise. A theory which started out from the assumption of full employment would have to say that the means of production which are demanded with the new money capital were previously destined to go to other producers. If the new money capital is the result of the creation of credit, the diversion of the means of production to the new productive activity will take place by way of the bidding up of prices on the market. Professor Strigl concluded from this—I think justifiably within the narrow confines of the assumptions stated above—that the credit can only find employment in those lines of production where the increase in prices of the means of production plays a smaller rôle in cost calculations than the fall in interest charges.[2] This would not be the case where the credit is used as "circulating capital" because, where working capital (materials that are used up in the process) is concerned, an increase in its price will be a weightier consideration than the reduction in interest charges. The reverse is true in the case of fixed capital, and it would therefore be profitable to use the additional credit only for investment in fixed capital.

The marginal borrower is likely to be an investor in fixed capital because of the relative weight of interest charges

---

[2] Richard von Strigl, *op. cit.*, p. 194.

The answer to the question under consideration is in large part contained in the assumptions. It has been assumed that the demand is given and that the supply of money capital increases. The result must therefore be the satisfaction of a demand that was previously unsatisfied. If this investment opportunity which can now be exploited with the aid of the newly created credit was previously excluded by the competition of other ways of using money capital this must obviously have been due to the interest factor. Investment opportunities which cannot be taken up because credit is "too dear" must be of the kind where the interest factor plays a relatively large rôle; this is only the case with long-term investments. An investment which is made possible only by the creation of new credit can therefore only be an investment in fixed capital.

Generations of practical bankers, and authors of books about banking, have preached that bank credit should not be used for investment in fixed capital. Even if the length of the period for which working capital is invested is greater in the economic system as a whole than in the single undertaking, it will still be possible to liquidate working capital with less difficulty and at smaller loss than fixed capital. The "inflationary effects" should therefore be milder and less harmful if a credit expansion serves to finance working capital than if it is used to finance fixed capital. But is it possible to prevent the credit from being invested in fixed capital? The foregoing exposition, based on the assumption of a given demand for credit, leads one to answer this question in the negative. But is the "given" demand for working capital really perfectly inelastic?

Bank credit was supposed to finance working capital,—

—which might be more easily liquidated than fixed capital

In the demand for working capital perfectly inelastic?

Technically, an increase in working capital might take place without any increase in fixed capital if production could be extended within the limits allowed by the existing fixed capital equipment. The volume of production, at any time, is determined by marginal cost and marginal revenue. The marginal costs, i e., the increase in total costs due to an increase in production, consist for the most part in wages and raw material costs. The interest on the investment in wages and materials is of relatively minor importance and the effect of a decrease in the interest rate on marginal costs is microscopically small. This is explained by the fact "that we have there a fraction of a fraction of a fraction. The volume of working capital is only a ratio of the total annual prime costs, a ratio which depends on the rate of turnover, naturally, the *interest* on the working capital is only a percentage of that, and finally, a decrease in the rate of interest is only a fraction of the latter."[3] The marginal cost curve will hardly fall noticeably in response to a reduction in the interest rate, and it is scarcely worth talking about a fall in the interest rate leading to an extension of production within the existing fixed capital equipment.

A substantial fall in marginal cost leading to an increase in output in given plants cannot result from a fall in interest rates;—

—interest is not a significant cost factor in the short run.

The increase in the supply of money capital can, however, raise the demand for certain products and may thus lead to an extension of production through the rise in the marginal revenue curve. There are here three possibilities.

More working capital may be sought—

(1) If the increase in the supply of credit is inflationary in origin money incomes will rise and this will lead to an increase in the demand for consumption

---

[3] Fritz Machlup, "The Liquidity of Short-Term Capital," *Economica* 1932 p 280. See also my article on "The Rate of Interest as Cost Factor and as Capitalization Factor," *American Economic Review*, Vol. XXV, 1935, pp. 459 ff. In the German edition of this book (1931) this section was formulated in a slightly different way as will be evident from the use in the text above of the term "marginal revenue" which had not yet appeared in economic literature at that time.

goods which can be produced with the existing capital equipment.

(2) The fall in the rate of interest diminishes the interest charge on the carrying of stocks by traders, and may cause the latter to increase their demand for goods to hold in stock.

(3) The fall in the interest rate raises the present value of durable instruments of production and increases the demand for them.

—If secondary spending of new funds creates increased demand subsequent to the primary investment,—

The first of these three possibilities (aside from the financing of consumption out of public funds) is not a direct effect of the augmentation of the supply of credit. The money incomes rise not as the direct result of the increase in the credit *supply* but as the result of the *utilization* of the credit, and, moreover, only as the result of the utilization of inflationary credit. But here we are concerned with the form of the primary use of the credit, to finance either working or fixed capital of producers. The possibility that the utilization of the credit may lead to a secondary demand for consumers' goods, and that this may lead to a tertiary derived demand for working capital, is another matter.

—if a lower interest rate persuades traders to stock up,—

The second possibility is the fundamental idea behind Hawtrey's theory of the trade cycle. It has often been objected to this, that the demand of traders for stocks is influenced by interest costs only to a minute extent. There is a good deal of truth in this objection: it is not at all likely that the interest-rate-sensitivity of the traders' demand for stocks will be anything like as important as the interest-rate-sensitivity of the producers' demand for fixed capital.

—if there is more investment in durable equipment.

The third possibility brings us back to our thesis that the increase in the supply of credit will as a rule cause more credit to be used to finance fixed capital. The utilization of additional credit for extending production *without* simultaneous or previous investments in fixed capital is hardly likely to take place.

99. The misdirection of investment would, it is true, not have such far-reaching effects if the money capital were used to produce "liquid" goods instead of being used to construct fixed capital equipment. This is so, not so much on account of the "period of turnover of the capital" or the slower or quicker rate of amortization, as on account of the greater or lesser variety in the purposes for which the concrete capital goods can be used. The loss of value is usually in inverse proportion to the number of uses to which the goods can be put. Since fixed capital goods mostly consist of the type of capital that is least capable of being used for a purpose other than that for which it was originally intended, they are the ones that are most likely to be subject to capital losses.

Loss of capital is related to both durability and specificity of equipment —

—investment opportunities in working capital can be expected only through joint and derived demand, joint with fixed investment, and derived from secondary spending.

Considerations such as these, however, are neither of theoretical nor of practical importance, for, as we have seen, the desire to find exclusively "mobile" investments for the additional credit cannot be fulfilled. Circulating capital will be increased as the result of the credit expansion only to the extent that (1) the fixed capital equipment that is first constructed with the aid of the inflationary credits needs raw materials as complementary goods to go with it, and (2) the increase in demand for consumers' goods, which results in due course from the increase in money incomes, gives rise to a derived demand for working capital.

Our conclusions may seem to conflict with the facts of experience, and practical bankers in particular will defend themselves energetically against the insinuation that they grant their customers short-term credits for long-term investment. Conservative bankers are convinced that they finance only goods in process and give only advances on goods sold. But they forget that by giving the producers these funds for investing in "working capital" they put those producers in the position of being able to use their own capital in a different way than formerly. The granting of the bank credit to the producer frees the funds which were previously tied up in the running of his business, and he can now undertake the investments he plans with his "own funds." The concrete visible use to which the new credit is put is not, therefore, in any way identical with the investment which the credit has *de facto* made it possible to realize.

The banker cannot know the indirect uses of the funds which he lends;—

The investment which the credit expansion makes possible need not even take place in the firm of the actual borrower. Bankers could otherwise adopt the simple expedient of refusing any kind of loans and advances to entrepreneurs who undertake investment in fixed capital. In fact, however, the bank credit which the entrepreneur borrows for himself in the first instance may be re-lent by him to somebody else in the form of a trade credit, and thus make it possible for the firm which directly or indirectly takes over the products of the first entrepreneur to embark on investment. Or the bank credit may place the entrepreneur in the position of buying more on a cash basis and less on trade credit, and so enable the firms which directly or indirectly supply him with materials to undertake investments. Lastly, the bank credit may release some other credit and so, by easing the general credit market, make it possible for investment to be undertaken at some undeterminable point in the economic system. The great care which a banker takes in choosing between would-be borrowers will, of course, react beneficially on the quality of the bank's investments, but it will not prevent additional credit from leading to the immobilization of capital somewhere in the economy.

—their real investment may be in other firms

Careful selection of borrowers may protect the bank from losses but not the economy from immobilization

If term, form, and quality of credit cannot avert its use for fixed investment,—

100 If it is the inherent tendency of new credits (whether they be transfer credits or credits newly created by the banks) to find their way into investments in fixed capital, and if it is, therefore, of no avail to attempt to direct the credits into certain outlets by lending in a particular *form* and under particular *conditions*, then the mistrust of stock exchange credits with respect to their "quality" is groundless. We are no longer talking of the charge against stock exchange speculation that it may take the newly granted credits away from industry. For, in so far as one were concerned merely with the problem of how to prevent short-term credit from being used for fixed capital investment, the stock exchange would have to be praised and blessed *if* it actually did withhold the new funds from industrial investment. What we have to consider here is whether the "misuse" of the credits in production will not be made worse if the short-term funds are first transferred by stock exchange witchcraft into long-term funds.

"The harm which is caused by too much lending to the stock exchange lies in fact not so much in the possibility that there may be a shrinkage in the amount of lending to industrial borrowers," says Reisch on this point, "as in the fact that in this case credits will be put at the disposal of the stock exchange which are by their economic character totally unsuited to the purchase of securities."[4] Commenting on this it has to be said that credits which are by their nature unsuited to security purchases are just as unsuited to any other kind of industrial credit. For if every additional credit may have the effect of a long-term credit, it is obviously immaterial in what garb this credit is dressed. This gives a final negation to the question raised at an earlier juncture as to whether the danger that investments will be misdirected is greater when the credit is granted to the stock exchange than when the same amount of credit is granted directly to industry.

---

[4] Reisch, "Über das Wesen und die Wirkungen der Börsenkredite," *loc cit* pp 24 ff

—the banks stock exchange credits are no better and no worse than equal amounts of direct credit to industry

Aside from the fact that the effect of the credit is not decided by its outward form (discount, security loan, overdraft, &c.) nor by the way in which it finds its way into production (through loans to producers or traders or through purchases of securities, &c.) nor by the concrete purpose for which it is used directly (trade credit, working capital or fixed capital), the banks have no means of damming up the flow of newly created credit to the stock exchange. So long as the expansion of credit continues, the newly created credit will flow onto the stock exchange even though the authorities send a policeman after every credit. When rates on call loans rise considerably above the discount rate, the banks attempt to rediscount their holdings of bills in order to be able to use their funds on the stock exchange. If the banks, under the pressure of the official credit policy, do not dare to expand their lending at call, but there is nevertheless a tendency for the credit expansion to continue to the benefit of "legitimate productive activity," then ordinary business men will create commercial bills and will divert the "direct credits to industry" to the stock exchange. For nobody will prevent industry—attracted by the high rates on call money—from placing its liquid funds, of which it will have an abundance in consequence of the "legitimate industrial credits," at the disposal of the stock exchange and from financing new issues with them at the same time. In periods of boom—periods of credit inflation—practically every credit becomes a stock exchange

Besides, the direct loans to "legitimate business" cannot be kept from being passed on to a booming stock exchange credit.[5] The campaign against stock exchange credit will be brought to a successful conclusion only when a check is placed on credit expansion. And the check on credit expansion by the banks will not necessarily in all circumstances stop the increase in stock exchange credits immediately. Thus, for example, the restrictive credit policy of the American monetary authorities in 1928 achieved small success because the expansion was stimulated further by the reduction in the liquidity preferences of the economic system.

Qualitative credit control is effective only if it involves quantitative restriction.

The notion that it is possible to pursue an "effective" credit expansion and at the same time to avoid a stock exchange boom is absurd. Discrimination in lending is bound to fail so long as the discrimination does not imply restriction. This is, of course, possible and practicable; the demand for direct business loans and discounts might rise more slowly than the demand for security loans, so that a discrimination against security loans would act as a check on credit expansion in general. So far, however, as credits are created, they will tend, even when they flow straight into industry without first going through the stock exchange, to increase the demand for productive goods and in consequence to raise the value of plants producing means of production. This is bound to be reflected in an increase in the values of titles to these undertakings. Thus the same picture of a boom on the securities market will be presented no matter where the increased credits are initially placed.

"Effective" credit expansion and stock exchange boom always march together.

It is thus a mistaken judgment to regard security loans as the villain of the piece and to look upon discounts as being devoid of all evil. For both, either visibly or invisibly, tend to follow the path that offers the greatest attractions. It is not the form the credit takes nor the exact place where it enters the system that makes it dangerous; it is, instead, its amount

---

[5] See W. Randolph Burgess, *The Reserve Banks and the Money Market* (1st edition, 1927), p. 181: "It is thus impossible for a Reserve Bank to dictate how its credit shall be put to employment. It cannot, for example, restrict loans on the stock exchange and at the same time encourage loans to the farmer. Reserve Bank loans to a farming community bank may, and often do, find their way promptly to the stock exchange money market."

CHAPTER XVI

THE STOCK MARKET, EASIER CREDIT, DEARER CREDIT

101. Now that we have established that stock exchange loans are no more dangerous in their effect than other kinds of loans granted in the same volume, we must consider whether the volume of lending may not be influenced by the stock exchange, and whether this influence is not such as to tend to increase the total volume of credit.

Stock speculation, so much blamed for credit scarcity, is also accused contrarily of causing credit inflation

The question we are asking here is the reverse of the one which we asked at the beginning. Our original question was whether lending to the stock exchange caused *too little* credit to go to industry. The question we are asking now is whether lending to the stock exchange may not cause *too much* lending, or whether "excessive speculation on the stock exchange . . . does not *eo ipso* produce an inflation."[1]

It depends on the particular institutions whether or not there is any sense in seeking an economic "cause" of inflation

Whether or not there is any sense or justification in talking about the "causes" of an inflation depends not only on the definition of the concept of inflation but also on the prevailing institutions. If inflation is defined as an increase in the effective circulation of money, it has a certain sense, and is methodologically legitimate, to refer for example to a certain improvement in the technique of payments as the "cause" of an inflation. Whether, however, it is also justifiable to talk about objective causes of an increase in the volume of money depends on the prevailing institutions Under the institution of the gold standard there may in fact be a cause of a gold inflation in the sense of a causal nexus which is explicable in economic terms Under the gold standard the discovery of new rich gold mines, or a technical improvement in gold mining, would have to be regarded as causes of an inflation The increase in the volume of money would be the "necessary consequence" of the changes in the conditions of gold production Under the type of monetary system, however, where the volume of the circulation is controlled by a central monetary authority there is nothing according to which the fact of an increase in the volume of money can be determined by reference to any proposition of economic theory In this case an inflation is not the automatic or regular effect of objectively given facts, but is the result of a certain policy There may be more or less obvious motives behind the policy, the policy may be easily rationalized; it may be explicable on ideological, psychological or teleological grounds, but an inflationary policy of this kind cannot be said to be governed by any causal necessity of the type discussed in economic theory

---

[1] Thomas Balogh, *op. cit.*, p. 584. Similarly R. G. Hawtrey, *op. cit.*, p. 81: "The central bank is only concerned with speculation as a possible cause of inflation."

There may be "economic causation" in the case of an "automatic" gold inflation—

—but none in the case of a "controlled" credit inflation

If in any particular monetary system the issue of money takes place through lending by a bank which has a monopoly and is controlled by the state, then it is within the power of the administrators of credit policy either to grant credit or not to grant it Their decision is not guided by the principle of maximizing the profits of the issuing bank, and is not therefore determinate in the sense of economic theory The fact that at any particular moment requests for more credits or for larger credits may be made to the bank is under these circumstances no "cause" for granting these requests

It would be different under a system of free banking where the issue of money was independent of political aims. If the reserves of a multiplicity of competing banks were dependent on nothing else but gold production and gold movements—and could not be increased or decreased by central bank policy—the situation would be such that an inflation would be explainable as the economic consequence of certain circumstances (such as gold production, liquidity preferences, demand for credit). When, however, the supply of credit is managed by a central authority, an inflation is not the result of economic behaviour such as the behaviour of the buyer, the producer, the trader or the saver, but the result of "intervention" just like any measure of tariff policy, labour policy or tax policy.[2]

One should distinguish between economic behaviour and economic policy

The political and economic determinants of the credit volume might be evaluated—

The prevailing monetary systems in England and the United States are a compromise between political and economic determinants of the volume of credit. Many present-day students of monetary theory are inclined to exaggerate one or the other of these two aspects. Those advocates of an active trade-cycle policy who hold the official credit policy of the monetary authorities responsible for all fluctuations in investment and business activity exaggerate one aspect. Those members of the Keynes school, who regard an increase in investment opportunities as involving a simultaneous increase in money incomes, exaggerate the other aspect: they regard fluctuations in the demand for credit as the dominating "cause" of inflation and deflation. As I see it, the truth does not even lie exactly midway between these two views. I believe that inflation might be attributed more to political factors and deflation more to economic factors. The monetary authorities can do very little to avoid deflation; on the other hand they can avoid inflation by

—by reference to controllable and non-controllable factors.

---

[2] See Fritz Machlup, "Why Bother with Methodology?", *Economica*, 1936, p. 42.

withdrawing appropriate quantities of reserves from the banks, so that the latter will not grant credit to the full extent to which it is sought under given conditions, or will grant credit only under more strict conditions.

Whether or not an increase in the demand for credit and an increase in suitable collateral lead to more bank loans—

Requests for credit come to the banks from many different sources. Since the granting of credit (apart from personal loans) is influenced by the security that the borrower has to offer, and since particular types of cover or collateral (bills of exchange, shipping documents, warehouse receipts, securities) have proved to be specially suitable for bank credit, it has often been supposed that the possibilities of granting credit were strictly limited by the available quantity of these kinds of "security." In particular it was supposed for a long time that there was a strict dependence of the total volume of bills and requests for their discount on the "volume of trade." It has frequently been pointed out that this is a mere superstition. The number of bills coming forward for discount is largely dependent on the credit policy of the banks. An increase in the demand for loans against bills can in principle just as well lead to a tightening of the discount market as to the granting of the loans. It all depends on the policy of the banks, or on their reserve position as determined by the policy of the central bank.

—depends upon credit policy

Just as the desire to get bills discounted cannot be treated as the "cause" of the granting of the discount credit, neither can the request for loans against long-term securities be regarded as the cause of the granting of these loans. If the banks look upon securities with certain market values as sufficient cover for a loan of a certain figure, this does not mean to say that they are bound to give credit to everybody who can offer this kind of collateral. It may be argued against this that the banks are interested in lending as much as possible and will therefore be pleased to lend against the securities offered. The answer to this objection is that the banks are interested not merely in making profits on interest account, but also in protecting their solvency. The interest in increased lending is therefore only predominant when the official policy of the privileged central bank absolves the banks of the necessity of looking after their own solvency.

Statements concerning stock speculation as a cause of credit expansion call for several qualifications.

102. During the war there were people who described the inflation as the necessary *consequence* of the increase in prices. Those were unenlightened days, of course. But what are we to say about the argument that the rise of security prices is the cause of further inflation? Of course this statement is not meant to be taken too literally. There would be no objection to it if it were formulated more carefully somewhat as follows: "A rise in security prices may lead to the expectation of a further rise in prices. If corporations now take advantage of the public's willingness to buy by issuing new securities, there will be a rise in the *demand* for loans against securities. Assuming that the central banks, through their credit policy, rid the commercial banks of the necessity of looking after their own solvency, then, if it is customary to consider securities as collateral for loans up to a certain percentage of their market value, the rise in security prices will lead to an *increase in lending* against securities." This seems to be what is really meant when stock exchange speculation is described as the "cause" of the creation of bank credit.

We ought to consider here the question of the percentage up to which loans are granted against securities and the prices at which the securities are valued for this purpose. Let us assume that a margin of 55 per cent. is required (in the language of the American authorities[3]) so that 45 cents may be borrowed on every dollar's worth of collateral. Any rise in stock values gives "more margin" to the speculator. It allows him to borrow another 45 cents on each dollar of paper profit. If this is done and the increased credit is used to purchase more stock, market values rise further, and this further rise raises again the margin for potential loans, more loans, more purchases, higher prices, wider margins, and so on, in a (for a time) self-perpetuating spiral.

Fixed loan margins based on the market prices of securities widen the basis for credit when stock prices advance.—

There are of course remedies against this so-called "pyramiding." In 1929 Cassel proposed[4] that the banks should "under normal conditions agree on a certain valuation of securities for the purpose of making loans" and should "refuse any increase in the former loan values in spite of the increase in stock prices" or should even decide on "a general percentage reduction of the loan values." If rules of this kind could

—this can be avoided by fixing the loan valuations of securities.

---

[3] A margin of 55 per cent. (in this official terminology) is a lending rate of 45 per cent. and corresponds in the language of the American stock exchange to a margin of 122 per cent. See Winthrop W. Aldrich, *The Stock Market from the Viewpoint of a Commercial Banker*, 1937, p. 14: "As the Government states this requirement, it is a margin of 55 per cent. As the brokers calculate it, it is a margin of 122 per cent. If a man buys $10,000 worth of stock, the rule requires that he supply $5500 in cash and that he may borrow no more than $4500. This means that his margin is 55 per cent. of the total cost of the stock, or that it is 122 per cent. of the $4500 loan. Brokers and bankers, lending on active stocks, have usually considered 20 to 25 per cent. of the loan a satisfactory margin from the standpoint of the safety of the loan, reserving always the right to require higher margins if the loan was not well diversified or if, for other reasons, higher margins seemed called for."

[4] Gustav Cassel, *Does the Stock Exchange Absorb Capital?* *loc. cit.*, p. 25. The quotations in the text are partly retranslations from the German edition of Cassel's article ("Nimmt die Fondsbörse Kapital in Anspruch?", *loc. cit.*, p. 27). In the English version Cassel speaks simply about "margins," while in the German version he speaks also about the valuation of the securities. It is a curious fact that there do not seem to be any handy English terms for the two variables in the determination of the loan value, to wit, (1) the basic valuation of the security; (2) the percentage of the basic value up to which loans may be granted.

really be made effective in deterring the banks from expanding credit, they would undoubtedly represent a considerable step forward. But it is hardly to be expected that they would be effective so long as the precondition of credit expansion, an easy money policy on the part of the reserve banks (or large excess reserves resulting from a previous easy money policy of the monetary authorities) prevails.

In the United States legal margin requirements are decreed —

In the United States the monetary authorities have felt themselves obliged to impose relatively narrow limits to lending against securities. According to the provisions of the Securities Exchange Act of 1934 the Federal Reserve Board can issue rules and regulations concerning the amount of credit that may be granted against securities. The fixing of invariable margin requirements which are based on the current market prices for securities does however create the undesirable "pyramiding" effect described above no matter whether the margin requirements are high or low. In order to avoid this effect the Federal Reserve Board in 1934 issued the following regulation: "A loan on a security must not be greater than whichever is the higher of: (1) 55 per cent. of the current market price of the security, or (2) 100 per cent of the lowest market price of the security since July 1, 1933, but not more than 75 per cent. of the current market price."[5] For some time this regulation created an "anti-pyramiding zone"; soon, however, the prices of securities rose so high that only the first of the two rules was applied and the second one was therefore later revoked.

—for some time the formula attempted to create an "anti-pyramiding zone"—

The conclusions reached on the basis of an investigation by the Twentieth Century Fund, New York, contain the proposal that a maximum loan value of a share of stock should be fixed at some multiple of the net earnings of that stock over the five years preceding the loan.[6] A rule of this kind would mean that the loan value would change little and only once a year. Increases in the market prices of shares would, therefore, not permit increased amounts of lending.

---

[5] *Annual Report of the Board of Governors of the Federal Reserve System for the Year 1935*, p. 32.

Another rather arbitrary method of dealing with the problem is to lower the percentage up to which credit can be obtained on the basis of a given market value of securities when the market values rise, and to raise it when the market values fall. The Federal Reserve Board seems to have decided in favour of this method. In January, 1936, when stock prices were on the increase, margin requirements were raised, and in October, 1937, when stock prices had collapsed, margin requirements were lowered. The lowering of the requirements came much too late, however, and the Board was severely criticized for that reason. "If this method of control is to be used, it should be flexibly and promptly applied."[7]

—now they are manipulated to offset changes in security valuation

The idea behind all these measures against an expansion of lending against securities is presumably that they will prevent the stock exchange boom from having "inflationary effects." So far as the credit expansion in general is really restricted through such measures, they are appropriate to their purpose, and in many situations are fully justified. If, however, they merely serve to divert the stock exchange credits into other forms of credit creation, they accomplish nothing. This has been demonstrated in the previous chapter.

Such measures are effective in so far as they really check credit expansion.

If increases in security prices give the banks the opportunity to increase the volume of their lending against securities, it may look as though the stock

---

[6] *Stock Market Control*, Twentieth Century Fund, New York 1934, p. 183.

[7] Winthrop W. Aldrich *loc. cit.*, p. 16.

If credit is inflated,—

—one must blame the elastic supply by the banking system, rather than the increased demand by stock speculators

exchange were the cause, and the expansion of credit the effect. If there exists a latent capacity and willingness on the part of the banks to extend more credit, then such a conclusion is admissible. To put the same thing in technical terms: When the supply of bank credit is perfectly elastic the demand determines the volume of credit granted. It is then a disputable point as to whether it is more sensible to say: "The increase in the demand for credit by speculators leads to the inflation" or "the perfect elasticity of the credit supply leads to the inflation." Since the perfect, or practically perfect, elasticity of the credit supply is the result of political measures, I think there is little justification in the accusation that the blame for the credit inflation lies with stock exchange speculation.

It has been asked whether the security method of financing did not permit "double borrowing" first by the corporation, then by the security holder.

103. An idea connected with the problem of the influence of security transactions on the volume of credit is the supposed "duplication of credit" resulting from the system of financing capital requirements through security issues. According to this idea not only are the actual firms able to obtain credit, the owners of the titles (securities) to the property of those firms are able to obtain credit as well by using the securities as collateral for loans.[3] Thus the capital value of the firm presumably serves twice as a basis for credit.

It is certainly true that the security form of financing business has made it easier to borrow. But it is quite untrue to say that this has made possible a doubling of the basis of credit. When the owner of capital placed his money capital at the disposal of a firm, this was acknowledged in the form of shares or in the form of bonds. If for any reason he now desires to withdraw the whole or part of his money capital, he will look for another person who possesses free money capital to take over his title. This may take place either through the definitive or conditional purchase of the securities, or through a loan against those securities. Fundamentally the same process comes into play in both cases: the place of the first capitalist is taken by a second capitalist who provides the money capital invested in the undertaking. If the owner of securities borrows on them, this does not mean that the company which issued them *and* the owner who borrows on them have raised capital: all that it means is that the capital raised by the company has been provided partly by the owner of the securities and partly by the person who gave the latter a loan against those securities.

---

[3] This question was raised by Dr. Hans Simon in a discussion of my lecture "Verteuert die Börse den Kredit?" before the Economics Club of Vienna (25th April, 1930).

The company has raised capital by issuing securities; the investor raises capital by borrowing against the securities: this is substitution not duplication of funds.

It would, however, also be possible for a firm to obtain additional credits (*e.g.*, bank loans) besides the capital procured through the issue of securities, and for the shareholder at the same time to borrow on his shares. Does this not involve a duplication of credit made possible by the method of raising capital through the issue of securities? It is easy to see that this is not so once we realize that much the same thing can take place without the security form of finance. A partnership, N & Co., may secure a loan and at the same time Mr. N may be able to obtain a loan for his personal needs on the strength of his position as chief partner of N & Co. The condition for granting a personal loan of this kind will probably be that the lender considers Mr. N (perhaps on the basis of references and other information) as a credit-worthy person on account of the considerable volume of personal funds which he has invested in his firm. If, on the other hand, the firm is deep in debt, the partners will have a lower credit rating. The same applies, again,

The company may, however, borrow additional funds,—

—but increasing indebtedness of the firm is reflected in a lower loan value of its shares.

to the firm which has raised its capital by an issue of securities. If the corporation has, in addition, borrowed so much that the relationship of its borrowings to its share capital is considered to be unfavourable (and the high interest charges squeeze the dividends), then the shares of this company will fall in value and will give diminished possibilities of borrowing against them.

As the level of indebtedness of the company is expressed in the price of the shares, and this price is accordingly only a reflection of the net worth of the company, the "credit rating" of the shares reduces itself to the portion of the capital which the company really "owns," and does not make possible any duplication of credit. The fact that the capital of the undertaking is raised in the form of securities merely makes it easier to transfer ownership of the capital invested in it, and so enables the individual owners to liquidate their capital more easily and more completely. In other words, the security method of financing

Booming stock markets may allow the investor to borrow more against the securities than the corporations have raised.

enterprises makes it easier for investors to use the titles to their capital as collateral for loans or to replace their own funds readily by the capital of other investors. In times of growing optimism, however, investors may be able to get more money capital loaned on their securities than the corporations have received when they issued them. This is the kernel of truth in the idea of the "duplication of credit" under the system of security capitalism.

104. We have already discussed the allegation that stock exchange speculation produces the temptation for the banks to expand credit and thus to cause an inflationary *easiness* of credit. No less deserving of attention is the opposite claim that stock exchange speculation causes credit, particularly industrial

credit, to become *dearer*. This latter argument is not entirely disposed of by our investigation into the possibility of capital absorption. For it is quite conceivable that the stock exchange may not tie up capital either temporarily or permanently, and that, nevertheless, it may raise the price of credit (i e , the interest rate) by bidding for it on the market.

Stock speculation was also accused of causing higher interest rates, even if it did not "absorb" credit

It seems to me that it is precisely this point which has awakened so much practical interest in the whole of this group of problems. The borrower who had to pay a higher rate of interest at times of a booming stock market felt that his interests were harmed by the competition of the stock exchange.[3] Practical business men were thus originally concerned only with the tendency towards a rise in the cost of credit. This was then connected up with the absorption of capital. Our study of this possibility has, however, given rather negative results, for we came to the conclusion that a tying up of "genuine" (i e , non-inflationary) money capital on the stock exchange was extremely unlikely. We are thus brought back to the single point as to whether stock exchange speculation is the cause of higher interest rates.

105. The mere trading of securities, the exchange of ownership of already existing securities, is, according to George Halm, quite irrelevant from the point

---

[3] In the *Hearings on Stabilization* before the Committee on Banking and Currency (69th Congress 1931) Mr Hamlin, a member of the Federal Reserve Board, stated that speculation had injured business by increasing interest rates. It was similarly declared in the *Annual Report of the Federal Reserve Board for the Year 1929* (pp. 2 and 3): "The effect of the great and growing volume of speculative credit has already produced some strain which has reflected itself in advances . . . in the cost of credit for commercial uses . . . an aggravation of these conditions may be expected to have detrimental effects on business." On the other hand Charles O Hardy, *Credit Policies of the Federal Reserve System*, pp. 154 ff , has put forward the view that in reality "the tightness of the money market in 1928 and 1929 was due to Federal Reserve system policy rather than stock market activity."

Can the change of ownership of existing securities affect the price of credit?

of view of the cost of credit. "The purchases and sales which take place on the market for credit titles [illegible] cannot exert any influence at all on the pricing of capital disposition. Of course, the conditions of demand and supply of the particular categories of credit titles may change. But the supply and demand conditions for capital disposition do not change in the least."[1] According to this view the rate of interest is one of the factors determining the price of securities, but the interest rate is not in turn dependent on the level of security prices. The value of securities is calculated as the capital value of the expected return, and is thus the result of so-called capitalization, which combines the two factors—the return and the capitalization rate. If the expected return and the capitalization rate are given, then, allowing for a risk and uncertainty premium, the price of the security is also determined. If the yield prospects or the capitalization rate change, then the security prices will also change. But the latter is to be regarded as the dependent variable in this relationship.

Security prices are said to be dependent on, or seem to imply, the rate of interest, the latter being the independent variable

The foregoing description is, however, a very much simplified one which leaves many factors out of account. In the first place we have been talking about *the* capitalization rate, whereas in fact there are a number of different interest rates. Furthermore, we referred to *the* expected yield, while in fact there may be sharp divergencies between the yield estimates of different individuals in the market. Lastly, the rate of interest and the yield prospects were regarded as data with respect to which no changes were to be expected in the near future. The introduction of these complications of reality make many qualifications necessary.

---

[1] George Halm, "Das Zinsproblem am Geld und Kapitalmarkt," *Jahrbücher für Nationalökonomie und Statistik*, Vol 70, Jena 1926, p 110

According to Halm the capitalisation rate on the securities market is the result of two components—the "static long-term rate of interest" and the "money market rate."[2] This is perfectly correct, although the definition and measurement of the "static long-term interest rate" remain unsolved problems Strangely enough, however, it is the effect of the "money market rate" on security prices that has been cast into doubt An investigation of Richard N Owens and Charles O Hardy has sought to show that the money market rate had no influence on security prices[3] The final conclusions derived from 111 pages of text and an ample appendix are that the theory of the influence of the money market rate on security values is false, because the costs of buying and selling securities usually "eat up" any gain from the difference between the interest rates, that interest plays no rôle relative to the profits derived from changes in security prices, and that the speculator does not require any capital whatsoever for his transactions[4] These are not very serious objections Certainly the expenses are a consideration and the height of commissions and sales taxes represents an important friction The important thing is, however, the size of the difference (between the money market rate of interest and the yield on securities) and the expected duration of the rate level on the money market Admittedly the interest charge does not play a very large rôle in connexion with the profits derived from changes in security prices It is important, however, not to confuse security prices with *changes* in security prices It is a fact that a

Others have questioned the effect of interest on security price,—

—on the ground that the cost of trading exceeds the gain from interest spreads —

—and that interest charges are trivial as against gains from security price changes

---

[2] *Ibid* p 108

[3] Richard N Owens and Charles O Hardy *Interest Rates and Stock Speculation* A Study of the Influence of the Money Market on the Stock Market Publication of the Brookings Institute of Economics 1925

[4] *Ibid* pp 115 ff

One should distinguish between security prices and expected security price changes

speculator who expects a considerable rise in security prices will hardly be deterred by a high interest rate. The existence of an influence from the side of expected price *changes* on the interest rate is, however, not at all incompatible with the existence of the influence of the interest rate on security prices.[8]

The influence of the money market rate on the securities market cannot be seriously contested. Not only the rise of security prices during periods when the money market rate remains for a long time below the "static long-term rate," but also the sharp break in the speculation curve when the increased money market rates finally lead to a higher capitalization rate, are far too striking phenomena to be covered up in statistical series.

Exactly what is meant when it is said that the interest rate influences security prices, but that security prices do not influence the interest rate so long as no changes take place in the supply of, or demand for, money capital, can best be explained by the aid of an example.

An illustration is given—

Let us assume that the dividend prospects of the companies A, B, C, and D are estimated at 8, 6, 5, and 4 dollars respectively. In order to simplify the mere arithmetic of our example we may assume that these dividends are regarded as permanent—as perpetual annuities—and we shall also abstract from considerations of risk and uncertainty. If it is possible to obtain loans at 4 per cent., and no change is expected in this respect either, then under the given assumptions the securities market will set values of 200,

---

[8] With respect to the third objection we may say that, even if speculation as a whole requires no money capital, the securities of the individual speculator represent capital investment, and if the prices rise he possesses "more capital," and will, if he does not expect any further change in the prices, compare the potential yield of the funds obtainable from realizing the securities with the expected yield of the security holdings.

150, 125, and 100 dollars on securities A, B, C, and D respectively Now suppose that the yield prospects of the D shares rise from 4 to 5 dollars If this is generally known and is expected with certainty, then the value of the D shares will rise from 100 to 125 dollars, no matter whether there is any actual turnover of security titles or not The interest rate of 4 per cent will not be affected If the improvement in the yield prospects is known only to a few speculators, then it will pay these people to borrow money to buy D shares at any price between 100 and 125 dollars But even this demand for funds will not raise the interest rate or will only do so for a few hours, since as soon as the purchase of the securities is effected, a supply of credit will be forthcoming from the side of the seller On a well-organized market the seller may lend to the buyer—and the increase in the price of the shares will come about without any increase in the interest rate

—which shows that better prospects may raise prices of existing securities without raising interest rates

106 The matter is different if the D company, in view of the increased profitability of its business, wishes to expand its production If the acquisition of the necessary capital is to take the form of an issue of shares, the new shares will perhaps be issued at a price of 120 dollars Here—where there has been a rise in the price of the shares from 100 to 120 dollars—the credit market will be altered by an effective demand for new credit, and if the supply of credit is unchanged (and if it is not perfectly elastic) the raising of capital by the company will lead to a rise in the interest rate This rise then appears to have been induced by the securities market, but it has in fact been caused by the demand from industry

If, however, new securities are issued by industry, interest rates may rise.

It is this peculiar misunderstanding which has led to the attempt to construct an antithesis between industrial credit and the securities market In actual

Not direct loans to industry, but the securities markets furnish the bulk of industrial capital

fact it is the securities market on which industry raises the bulk of its capital requirements. Only a relatively small part of the capital requirements of industry is obtained by direct borrowing from the banks; it is called "industrial credit" by the latter: evidently the reason is that it is only in these cases that the name of the industrial undertaking appears on the bank's books. In the case of advances where the account is held in the name of the industrial firm, in the case of discount credit where the firm's name is written on the bill, and in the case of documentary credit where the name is written on the documents, the banks assume that they are lending to industry, whereas in the case of loans against securities, brokers' loans, loans at short notice, and call loans the other parties to the contract often seem to be speculators in securities. In fact, however, the securities exchange is the chief market for industrial credits. "For industry as a whole industrial credit which is in the form of shares and bonds is the most important part of the credit which is really decisive for industrial development."[6]

Higher security prices mean cheaper capital for industry

Once we have recognized that the investment titles of industry are traded on the stock exchange, we are bound to see a speculative upswing of security prices as a cheapening of industrial credit. "Viewed from the standpoint of industry . . . the stock exchange boom implies a decline in the real rate of return on securities and acts, therefore, only as an improvement in the facilities for obtaining capital."[7]

The argument that the passage of capital over the stock exchange is "costless" is a view which has been put forward in particular by Cassel.

---

[6] H. von Beckerath, *Kapitalmarkt und Geldmarkt*, p. 145. Similarly, F. Lavington, *The English Capital Market*, p. 186.

[7] Albert Hahn, "Borsenkredite und Industrie," *Frankfurter Zeitung*, 9th May, 1927, No. 341.

Against this argument Reisch has attempted to prove that the stock exchange leads to an increase in the cost of obtaining capital. The *purchaser* of shares, Reisch argued,[8] is willing to concede a high interest rate in the hope of making profits on changes in security prices; it is therefore improbable that the seller of the shares will place his proceeds at the disposal of industry at a *low* interest rate. Evidently the seller of the shares is here looked upon as lending money to industry; in reality, however, industry itself is a seller of shares. The more the buyer pays for the shares, the more cheaply does industry obtain the capital it requires. As Reisch speaks, at a later stage in his exposition, of industrial over-investment as the result of the stock exchange movement, he implicitly recognizes the reduction in the cost of obtaining capital. For the lowering of the cost of obtaining capital which is reflected in the high prices at which new issues can be placed, or at which old holdings of securities can be realized, makes it possible to undertake extensive new investment.

Most writers agree that industrial credit during the twenties was exceedingly cheap and that this was due to inflation—

The boom on the stock exchange undoubtedly involves a cheapening of industrial credit. The cheapening which took place in the United States in the years 1927-29 was, in my opinion, "unnatural" in the sense that it was the result of an inflationary expansion of credit.[9] Against this view, Lindley M. Fraser holds that "the stock market boom . . . was in essence a natural reaction to the general economic conditions."[1] The supply of voluntary savings was

---

[8] Richard Reisch, "Rückwirkungen," *loc. cit.*, p. 212.

[9] This view is shared by many others. Irving Fisher has been especially emphatic in his support of it in "The Stock Market Panic in 1929," *Journal of the American Statistical Association, Supplement*, Vol. 25, 1930, pp. 93-97. See also Lionel Robbins, *The Great Depression*, 1934, Chaps. II and III.

[1] Lindley M. Fraser, "The Significance of the Stock Market Boom," *The American Economic Review*, Vol. 22, 1932, p. 198.

—rather than to increased genuine saving.

so great, according to Fraser, that, with the rather inelastic industrial demand for capital, it could only be invested through a sharp rise in security prices, i e, a cheapening of credit Hence Fraser criticized the view "that speculation was making money too cheap for producers and entrepreneurs No doubt that is a sounder view than either the doctrine that a stock market boom has no practical effect on industry at all, or—still more—the popular belief that it tends to *deprive* 'legitimate business' of the credit to which it is entitled '"[2]

Fraser thus agrees with me that the stock exchange boom brings cheaper credit to industry, he insists merely that industrial credit in the United States towards the end of the twenties was not unhealthily cheap There can, of course, be no proof of either view, the figures of bank deposits and their velocity of circulation do, however, I think, speak against Fraser's view

107 Anybody who speculates on the rise in the price of a security is prepared to pay a higher interest rate for direct credit than he actually obtains in the form of dividends on his security This difference partly explains the cheapening of the security form of industrial credit When industry receives the new (cheap) capital and/or when the seller of shares withdraws from the stock market with his profits, call money rates rise The rise in call money rates[3] also brings in its train, however, a rise in discount rates and rates for other kinds of bank credit, and anybody who requires credit in this form has to submit to a rise in its price

The rise in call money rates which accompanies the stock market boom usually leads also to higher rates for other forms of bank loans

---

[2] *Ibid*, p 199

[3] In the critical months September and October, 1929, call rates on the New York money market fluctuated between 5 and 10 per cent On 25th March, 1929 the call rate reached a height of 20 per cent

It might be argued that industry will react more markedly to a change in the costs of carrying working capital (financed by discounts or bank advances) than to movements in the costs of long-term credit, especially as existing industries do not usually have to take account of fluctuations in the rate of interest on the capital market Their requirements of long-term capital are usually covered once for all, and a fall in the capitalization rate and a rise in the price of their shares is of less interest to them than their current payments in respect of short-term loans Thus industries which have no intention of raising more long-term capital complain about credit becoming dearer, and it is such complaints that have led to the mistaken assumption that industry has to compete with the stock exchange for credit whereas what really happens is that long-term credit competes with short-term credit [4]

It is, finally, industrial long term credit which competes with industrial short term credit.

So far as industry, which complains of the high rate of interest charged by the banks, has covered its permanent working-capital requirements by short-term loans, it is provided, by the situation of which it complains, with an excellent opportunity for financing its capital requirements in a more solid way and converting the "dear" bank credit into cheap long-term credit by increasing its capital stock So far as periodic temporary capital requirements are concerned, it is questionable whether industry is seriously vulnerable in respect to the rise in short-term rates Where the capital requirements of a firm fluctuate, the deplored movement of interest rates changes the "capital optimum,"[5] making it profitable to raise more capital at long-term The complaints of industry about credit becoming dearer are thus directed only in appearance against stock exchange credit; they are in reality directed against competitors in industry who have access to the cheap long-term capital.

---

[4] J M Keynes remarked on the analogous situation in the U S A in 1927 29 "Thus, whilst short-money rates were very high and bond rates somewhat high, it was cheaper than at any previous period to finance new investment by the issue of common stocks" *Treatise*, Vol II, p 195

[5] N J Polak, *op cit* pp 102 ff

This judgment may seem to be unjustified to the extent that industry is not exclusively composed of joint-stock companies for whom alone the way is open for obtaining capital on the securities market. Aside from the fact that the greater part of industry is financed by issues of securities and that single ownerships and partnerships constitute an almost insignificant part, even these types of business firms have ways of raising capital which correspond to the issuing of shares, viz., the taking on of new partners or members. The moment is not always favourable for such firms to find new associates. At the time of the crisis or during the depression few people will be interested in putting their money into a private firm, but the same thing applies at such times to the issue of shares. In the recovery phase or the beginning of the boom, interest reawakes first in fixed interest-bearing securities (debentures, bonds, mortgages); and as the stock exchange becomes more active industrial companies are able to proceed to issue shares, and good private firms are able to find new active or sleeping partners.

Are the cheap long-term funds available to corporations only?

In times of booming securities markets new associates are easily found for partnerships.

If the supposed antithesis between stock exchange credit and industrial credit is non-existent, and all that exists are different forms of industrial credit which have more or less drawing power at different times, it may be justifiable to look upon other classes of would-be borrowers as injured. This may apply in particular to agriculture. It is a fact that agricultural credit becomes dearer in times when there is an active interest in industrial securities. Agriculture's competitor for credit is industry and not "stock exchange speculation."

Agricultural credit, however, becomes dearer with a booming stock market; it is then industry which is the actual competitor for the credit supply.

108 There is another problem which is both narrower and wider than the question of the effect of stock exchange loans on the interest rate. This is the question of the effect of stock exchange loans on the lending capacity of the banks. It has sometimes been presumed that stock exchange loans decreased the lending capacity of the banks both absolutely and relatively. So far as concerns loans to brokers from other sources than the banks, this view of the diminished lending capacity of the banks is the reverse of the truth. The loans "on account of others," which could be made by the banks in the U. S. prior to 1933, reduced the direct loans and the demand deposits of the banks and thus increased their excess reserves.[6] To be sure the banks had to be careful since they knew that they must be prepared to step in and extend credit to brokers on their own account in case the "other" lenders should demand repayment of their loans. In this sense the loans to brokers by "others" released less bank credit than would otherwise have been the case.

Stock exchange credits may affect the lending capacity of banks.

Loans by "others" may release bank credit

As regards the direct loans by the banks to brokers, these reduced the remaining lending capacity of the banks no more and no less than any other form of credit. Benjamin M. Anderson observed, quite rightly, that "An increase in commercial bank loans of whatever kind, whether stock market loans, commercial loans, real estate mortgage loans, or loans of any other kind, tends to reduce the ability of the banks to make other loans, and tends to raise rates of interest to other borrowers. The point is that when a bank makes a loan, it must either pay out cash from its reserves, reducing its ratio of reserves to deposits, or else increase its deposits, which again reduces the ratio of reserves to deposits, though at a less rapid rate."[7]

---

[6] Benjamin M. Anderson, "Brokers' Loans and Bank Credit," *Chase Economic Bulletin*, Vol. 8, No. 4, 1928, p. 4. This refers, of course, only to that part of loans "on account of others" which were made out of existing bank balances.

Brokers' loans by banks compete, of course, with other forms of bank loans

So far as I know, it was never denied that loans to brokers diminished the capacity of the banks to grant *other* loans. It would, however, be wrong to infer that lending to the stock exchange deprives industry of credit, for with few exceptions stock exchange credit is really industrial credit. Strangely enough, B. M. Anderson was numbered among the adherents of the hypothesis of capital absorption by the stock exchange.[8] What Anderson really said when he made the above remark was, however, nothing more than that a loan which has already been granted (e.g., to industry in the form of stock exchange credit) does, of course, decrease the banks' capacity to grant further loans.

Stock exchange credits may make long-term credit cheaper and short-term credit dearer—

109. Does the stock exchange cause credit to be dearer? This question, we have seen, has little point. The securities exchange is a part of the credit market; it is the market for credit which is long-term in character but can be easily realized. Is it possible that the existence of a market can increase the price of the thing that is traded on that market? It is easy to see that every increase in the supply of credit on this part of the market means a *cheapening* of the particular kind of credit that is traded on it, and it is equally clear that if the total supply of credit remains unchanged the credit dealt with on the other parts of the market must become dearer. Direct credit thus usually tends to become dearer as a result of the competition of the security form of credit when the former

---

[7] Benjamin M. Anderson, "Commodity Price Stabilization a False Goal of Central Bank Policy," *Chase Economic Bulletin*, Vol. 9, No. 3, 1929, p. 15.

[8] E.g., by Howard S. Ellis, *German Monetary Theory 1905-1933*, p. 382.

has been cheaper than the latter, this may be explained in terms of the tendency of the interest rates on the two partial markets to approach each other, and we refer to this as the closing up of the gap between long-term and short-term credit. It is one of the many paradoxes of those who are responsible for framing economic policy that they strive to obtain a diminution or a removal of the gap in interest rates on long- and short-term money respectively and at the same time complain of the increase in the price of short-term money which often is the necessary consequence of this process.

—and, thus, lessen or close a gap between the respective rates of interest.

The gap between the (low) rate on the money market and the (high) rate on the capital market may in principle have three causes:

The gap between a high long term rate and a lower short term rate may be due to—

1. The appearance of an increased demand for long-term capital which tends to raise the rate on the capital market. Such a demand for capital finds expression in a new security issue or in the unloading of unsold holdings of previous issues. The increase in the rate of interest on the capital market appears in the form of a decline in security prices.

—an increased demand for long term funds —

2. The withholding of the capital supply from long-term investments (following a crisis) which raises the rate in the capital market and lowers the rate on the money market.

—or reluctance to make long term investments,—

3. The appearance of an increased supply of short-term capital which causes the money market rate to fall.

—or an increased supply of short term funds

In all these cases, sooner or later, a movement towards equilibrium will set in, tending to wipe out the difference. The increase in the price of direct bank credit through an increased volume of funds going to the stock exchange is in every case an essential element in this equilibrating movement.

Is it possible that loans to the stock exchange may cause the price of direct bank credit to rise above the rate of interest on the capital market? This is least likely to happen when the gap between the (originally lower) money market rate and the (originally higher) capital market rate was exclusively due to the first two of the three principal causes. For as soon as the yield margin is removed the demands of the "stock exchange" on the money market will cease. The closing together of the money market rate and real yields will have removed the cause of the tendency for bank credit to become dearer.

The flow of money market funds to the securities market may be the balancing factor.

If the first-mentioned causes are accompanied by the third-mentioned cause, then the case is different. If the gap between the interest rates is partly caused by an abundance of funds on the money market, this usually inflationary supply of credit may eventually lead to a cumulative movement which may in its later stages drive the money market rate up above the capital market rate. The funds which are offered on the money market may originally have come from current new savings or current depreciation funds and may have been withheld from the capital market because of lack of confidence (cause No. 2). As soon, however, as these funds begin to flow over into the capital market, the inflationary sources of the supply of funds to the money market (hitherto idle cash balances and newly created bank credit) will start flowing very freely. The great elasticity of this supply allows the cumulative upswing to attain such a speed that it does not stop at being an equalization process which would come to an end with the decline in the capital market rate (i.e., with the increase in security prices) and the rise in the money market rate: instead of this it develops into a boom with excessive financial and real investment. The capital market rate (i.e.,

If the money market funds spring from inflationary sources, a cumulative movement may emerge—

real yields) is pressed down by the feverish expectations of further rises in security prices, and the money market rate is driven up by the demands for credit for the excessive extension of production. True, it is the stock exchange on which the producers' demand for credit manifests itself; but to blame the loans to the stock exchange for the fact that credit becomes dearer is to refuse to go below the surface of things.

—which concludes with the short term rate above the long term rate

If we reason closely, the explanation of the fact that bank credit can become so much dearer has to go back to the fact that bank credit has originally been too easy. Stock exchange credit does not here play the rôle of the ultimate cause.

CHAPTER XVII

CONCLUSIONS

An abstract of a selected list of issues is formulated here in—

110. An evaluation of the results of our investigations may be facilitated by an abstract in catalogue form. The critic of this book should, however, not be tempted by such a handy digest to save time by skipping the first sixteen chapters and to form his opinion on the basis of the abstract. It is only intended to provide the reader who has struggled his way through the pages of this book with a "docket" which contains the shortest possible (and hence inexact) formulation of those of our theses which deviate from accepted doctrine or constitute controversial issues. Moreover, we include only those theses which are relevant to the general attitude toward the problems of the stock market, credit and capital formation, that is to say, we include only theses which may have practical-political significance rather than theses which constitute "intermediate products" of theoretical analysis, whatever may be their significance as instruments for arriving at definite findings.

—thirty seven theses

111. 1. An investment of money capital which liquidates a previous investment of another person constitutes merely a transfer of funds.

2. Consumption of profits and of liquidated investments may be at the expense of new capital formation, rather than at the expense of the old investment.

3. Money capital is "absorbed" where real investment takes place, i.e., where capital goods are produced. Not only the proceeds from sales of new

securities but also those from sales of old securities may go into real investment.

4. Money capital may go into real investment, into consumption, into hoards (and cancellation of money), or into a chain of interpersonal transfers.

5. No additional money capital is needed for a rise in security prices.

6. Higher security prices, sometimes a symptom of an increased supply of investible funds, call forth issues of new securities and sales of old securities by industrial producers.

7. Abundant funds, especially those of inflationary origin, may not find ready outlets in real investment.

8. Extensive and lasting stock speculation by the general public thrives only on abundant credit.

9. Losses by stock-market speculators constitute no real capital losses to society.

10. An increase in stock-exchange turnover need not involve an increase in the demand for money on the part of stock-exchange members or of traders holding current accounts with stock-exchange members; the clearing mechanism may obviate any increase in payments.

11. Clearing balances need not be higher in times of high or rising stock prices or turnover than in times of low or falling stock prices or turnover. Clearing balances rise because of an uneven distribution of selling and buying among different brokers.

12. An increase in clearing balances can be settled without an increase in brokers' bank balances through a faster turnover of existing volumes of bank balances and bank loans.

13. Customers' brokerage deposits function in boom

times as a peculiar type of "money" for the speculating public.

14. If speculators who sell ask for cheques from their brokers, and send cheques for their new purchases, bank deposits are tied up. However, widespread trading by the general public, involving long chains of cheque transactions, develops only in times of credit inflation.

15. A continual rise of stock prices cannot be explained by improved conditions of production or by increased voluntary savings, but only by an inflationary credit supply.

16. The volume of brokers' loans tells us nothing about the amount of funds that have flowed onto the stock exchange. Brokers' loans are increased through an excess of customers' withdrawals over new deposits of funds.

17. Rising stock prices may lead to an increase in brokers' loans through induced withdrawals of profits and proceeds.

18. Brokers' loans rise also when sellers withdraw funds in order to loan them to brokers. The sum total of brokers' loans may be a multiple of the funds actually involved.

19. If the seller lends, via the broker, to the buyer, brokers' loans rise without requiring any funds or any bank credits. Brokers' loans can be rapidly liquidated if call-money lenders buy securities from margin debtors.

20. Brokers' loans which constitute credits by the seller to the buyer represent no funds which anybody might have used for anything else; neither the seller nor the borrower has liquid funds.

21. Bearish sellers may keep a liquid position not

only by holding idle the balances received from bullish buyers but also by holding call-money claims. Large brokers' loans do not reflect idle funds.

22. Capital gains are not money income to society and do not constitute investible funds.

23. Any decrease in the effective supply of money capital is likely to cause disturbances in the production process.

24. An inflated rate of investment can probably be maintained only with a steady or increasing rate of credit expansion. A set-back is likely to occur when credit expansion stops.

25. A "crash-proof" distribution of expanded credit is rather improbable. Both producers' credit and consumers' credit may create disproportionalities and lead to major disturbances. A price-stabilizing credit expansion may unstabilize the production structure.

26. Credit inflation is "healthy" if it compensates for deflation through current net hoarding, or for an increase in the number of holders of cash balances or in the number of "stopping-stations" in the money flow.

27. The use of credit for financing working capital does not assure "self-liquidation" or liquidation free of disturbance. For the economy as a whole circulating capital mostly constitutes long-term investment and, if the volume of production is to be maintained, even permanent investment.

28. Seasonal fluctuations in the producers' capital demands are not manifestations of fluctuating capital requirements of the economy. The fluctuations came into being when temporarily liquid surplus cash balances were put to use.

29. Surplus cash balances in times of seasonally low

inventories need not reflect seasonal unemployment of productive resources. The transition to a system of loaning out these temporary surplus funds may have inflationary effects.

30. Business surplus balances due to reduced production, and consumers' surplus balances due to postponed consumption, if loaned out, represent genuine "transfer credit," whereas surplus balances due to regular pulsations in the money flow, if loaned out, act like "created credit."

31. Credit loaned out of surplus cash balances may make for monthly and seasonal easing and tightening of the money market.

32. The start of a general business upswing can be financed out of surplus cash balances without an expansion of bank credit. The temporary surplus cash balances, dishoarded at the beginning of the upswing, are set free again when the crisis is liquidated; they are then disposable for another upturn.

33. New short-term credits usually involve long-term investments for the economy as a whole. The banker cannot know the indirect uses of the funds which he lends. Careful selection of borrowers may protect the banker from losses but not the economy from immobilization.

34. The effect of a certain amount of bank loans may be the same whether they are given as stock-exchange credits or as direct commercial credits to industry. Qualitative credit control is effective only if it involves quantitative control.

35. If bank reserves are controlled by the monetary authorities, credit inflation should not be attributed to the stock-exchange boom. However, margin regulations may be an effective means of checking the expansion.

36. The stock exchange is the foremost market for industrial capital funds. Higher security prices mean cheaper capital for industry. It is not the stock market which competes with industry for funds, but rather industrial long-term credit which competes with industrial short-term credit.

37. The flow of money-market funds to securities markets may close the gap between long-term and short-term rates. If the funds spring from inflationary sources, a cumulative movement may emerge which can drive money-market rates above long-term rates.

112. The theses stated above were not, I repeat, selected because I considered them the representative results of my analysis. My object was to stress here those issues which a practical banker or politician might find interesting. Practical men are often sceptical of theoretical analysis. "That may be all right in theory, but is it true in practice?", is one of their queries. And when they are assured that theory tries to explain things of the real world, another doubt arises concerning the value of the results of analysis. "That may all be so, but what does it teach us? How does it help us?"

Are the findings of theoretical analysis practically significant?

The practical man is inclined to regard scientific findings as valuable only if they are an aid to the formulation of definite plans of conduct, definite policies. It is usually forgotten that the findings of analysis cannot be instrumental in designing policies before the ends and goals, in the order of their relative importance, are decided upon. It is utterly useless, for example, to try to devise a policy of controlling stock-exchange credit before it is clear whether it is considered more important to avoid cyclical fluctuations in industry or to strive toward full industrial employment, or to save the public from losses through

They cannot aid in the designing of policies before the ends and aims of policy are given speculation or to secure cheap agricultural credit, or what not. Insight into the economics of the stock exchange will be needed for any of those policies, but economics alone cannot decide which policy is "the best."

Various desired ends are often not compatible with one another

It is, however, a very important task of economics to find out whether two or more of the "desired ends" are fully compatible with one another or whether they are alternatives between which we have to choose or, perhaps, whether they can all be accomplished only to a limited degree, forcing us to relinquish some part of one in order to obtain more of another. Problems of this sort are highly controversial. How much "stability" do we have to forgo in order to have more "progress"? How much "recovery" can we create without risking too great a relapse? Many of the assumptions necessary for analysing these problems are of a political nature, and many points of a predominantly volitional character become unavoidable steps in the argument.

Should credit control try to produce prosperity or to avoid fluctuations?

Some years back, the avoidance of cyclical fluctuations was recognized as an objective of undisputed precedence. Years of economic stagnation changed the general attitude. To overcome the stagnation by all possible means became *the* objective, with the prevention of possible future set-backs as a minor consideration. Any policy of credit control, qualitative or quantitative, can, of course, be advocated and evaluated only as a part of the general policy toward the major ends.

It seems that prosperity must inevitably be followed by depression

113. The dogma that one can avoid the downswing only by avoiding the upswing, which was widely held a few years ago, has recently fallen into disrepute. I still hold to that idea, not as a dogma, but as a statement of an extremely high "probability value"

I believe that the upswing breeds a host of disproportionalities in the production and price structure, which turn out to be untenable and result in a depression.

Expansion is not necessarily the only way of improving economic conditions.

"Sadistic" versus "frivolous" trade cycle theories

To hold this view is not equivalent to upholding the postulate that an upswing ought to be avoided at all costs. Such a postulate would appear to be sensible only if there were another way of improving depressed economic conditions. Since such an alternative would most likely include cost reductions as a remedy for maladjustment, it has been termed the "deflationary route" toward re-employment. If one believes that route to be impassable for institutional or political reasons, or to be too stony and strenuous and unduly painful, one may take the position that the "inflationary route" is preferable in spite of its ups and downs. (Professor Röpke once contrasted the "sadistic trade cycle theory" with the "frivolous trade cycle theory"—the former recommending painful cost reductions without considering the solution through public loan expenditures, the latter recommending generous public spending without considering the solution through cost adjustments.)

Those who believe in the possibility and efficacy of cost reductions oppose inflation in any form.

Those who believe, on the one hand, that distortions in the production set-up are likely to result from credit expansion, and on the other hand, that cost reductions would be both politically feasible and economically effective, would clearly oppose any inflationary policies. They would resist credit expansion whether it were demanded for the sake of stabilizing prices in a progressive economy, or for the sake of furthering production in a stagnating economy, or for the sake of pushing consumption or stimulating investment, or creating employment. Indeed, they would have to go further than the staunchest anti-inflationists, and suppress those merely momentary expansions of bank credit on days of massed payments, because these bank loans might support an expansion of loans out of existing surplus cash balances.[1]

No monetary system can be safe from "inflation",—

114. It is hardly possible to devise, even in pure theory, a system which completely excludes all and every expansion of credit. The claims that a system of free banking would, in the long run, be less conducive to credit creation than a central reserve system, do not seem to be acceptable. The claims that a system of absolutely fixed, or rigidly managed, volumes of note and cheque deposit circulation would abolish all inflationary possibilities, are not tenable either, they are, to say the least, exaggerated. If, therefore, such radical reforms as the introduction of the 100% plan cannot guarantee full success in this respect,[2] we shall have to content ourselves with the discrete exercise of the existing powers of monetary management.

—not even the 100 % system.

Monetary control needs sensitive indices as guides.

Perfect monetary control would require perfect foresight. Short of this, monetary management needs at least the capacity of quickly recognizing what has been going on. In this regard, close observation of stock-exchange transactions, of stock prices and of stock-exchange credits is, I believe, of major importance, and can furnish significant clues for intelligent monetary management. In point of fact, the central banking authorities in various countries have been studying these records intently, especially since the middle of the twenties, and, relying on certain partly erroneous interpretations of their data, they were at times led to take more or less drastic action against stock-exchange credits. These actions and official charges and attacks against the stock exchange have evoked reactions on the side of "defenders" of the

Stock-exchange activity has been used as a guide,—

---

[1] See above, § 89.

[2] See above, § 93.

stock market In these quarters, supported by recognized authorities in the field, it was held that it was none of the central banks' business to watch, or, much less, to try to control, the stock exchange or stock-exchange credits.

Many of the arguments against the intervention of the monetary authorities and against the "official" theories were correct Yet, the suspicious attitude of the central authorities towards the excessive volume of stock-exchange credit was certainly justified The official view that the stock exchange with its demand for credit was a dangerous competitor of trade and industry was, of course, untenable And the official view that stock-exchange credit should be restricted but that, at the same time, credit in other forms should be allowed to expand, was wide open to criticism But so much is certain that the volume of stock-exchange credits must not be ignored; it is important both *per se* and as a part of the total volume of bank loans The volume of loans in conjunction with stock-market movements may be a valuable guide of credit policy.

—perhaps on the basis of false reasoning,—

—but the principle was justified

The days when gold movements could be held to be the one and only guide of monetary management are definitely gone. Other indices have been accepted, or proposed, as "assistant guides" or even as chief guides Their sensitiveness with respect to movements beyond the "zero point of inflation" varies with changing circumstances—unless one defines the zero point of inflation in terms of one of the indices (such as a certain price level or level of employment). If net inflation is defined as an expansion of the volume of money (and money substitutes) in excess of spontaneous net hoarding, and of requirements arising from an increased coefficient of money transactions (e g., more stopping-stations in the money flow), then

Guides of monetary control are not equally sensitive to "inflation" it is impossible to rely on any simple index that might work as an "inflatiometer."[3]

Gold movements,—

—foreign exchange rates

—and commodity price levels—

Gold movements have never been a good guide in that respect. Whenever expansion took place at a fairly even pace in all of the various gold standard countries, there would be no international gold movements to indicate that expansion. The foreign exchange market, though more sensitive than the gold flow, would likewise fail to record "parallel inflations" in the various countries. The commodity market and, in particular, the level of commodity prices, the most popular guide, fails to function as such, that is to say, fails to record credit inflation, when production techniques, or the productivity of resources, change—as they do almost continuously. The securities market, however, and in particular the level of security prices, would be likely to respond to an inflationary use of credit even when all the other indices failed to respond.[4]

may fail to register inflation which is registered by security price levels

Security prices should be watched together with stock exchange credit.—

The movement of the level of security prices would be indicative of inflation and deflation not *per se* but only in conjunction with other circumstances. Changes in the volume of stock-exchange credit would have to be watched in this connexion. It should be noted, however, that the volume of stock-exchange credit may rise without any funds flowing to or from the stock exchange, if sellers lend to buyers. On the other hand, borrowed bank funds may pass through the stock exchange and onto industry without any rise in the volume of stock-exchange credits, if the buyers have obtained loans from others than brokers. For these reasons the volume of *all* bank credits would have to be watched together with the movement of security prices and, moreover, together with the volume of security issues. The volume of security issues, however, may rise merely through flotations by investment trusts and holding companies without any new funds going to industry. On the other hand, borrowed funds may go into industry, via the stock market, without any new security issues, if industrial firms sell securities which they have previously carried among their assets. Thus, we see that none of the indices mentioned—security prices, stock-exchange credits, total bank credit, security issues—is fully reliable as evidence for or against the presence of inflation. Yet, if all of these indices show an upward (or downward) movement, the presumption is very strong that inflation (or deflation) in the sense defined is taking place, even if the level of commodity prices does not show the least upward (or downward) tendency.

---

[3] The word inflation should be used without any prejudice, it should neither convey approval of the "beneficial" effects of increased incomes nor disapproval of the "detrimental" effects of a possible collapse. Cf. Gottfried Haberler's "Comments on Mr. Kahn's Review of Prosperity and Depression," *Economic Journal*, Vol. XLVIII, 1938, pp. 326-7.

[4] Hawtrey disagrees with this view. Cf. *The Art of Central Banking*, p. 83: "The economic importance of the stock market arises . . . from the new issues . . . Through them inflation and deflation may make itself felt. But if so, the result is at once recorded in the *commodity* markets and the state of industry. It is quite unnecessary to appeal to the price level of shares as a criterion." Howard S. Ellis favours my view against Hawtrey's. Cf. *German Monetary Theory, 1905-1933*, p. 387: "Stock and bond quotations have always appeared as more sensitive barometers than commodity prices."

—and total bank credits as well as new security issues.

115. To regard stock-market data as an important guide of credit control is one thing; it is quite another thing to regard the stock market as an appropriate working point for credit control. One may accept the barometer-function of stock-market activity and yet prefer general discount policy, open-market policy and other measures affecting the excess reserves of commercial banks as the best means of credit control. On the other hand, one may belittle the stock market

The stock market is not only considered a good guide—

—but also a proper field of intervention by monetary authorities

as a guide and yet accept discrimination against stock-exchange credit, margin regulations, and control of flotations as efficient means of credit control. In other words, one may believe that the stock market is both a good "compass" and a good "steering wheel" of monetary control, or one may believe the one without believing the other.[5]

I am inclined to think that the stock market can serve both functions, but only in connexion with other guides and other mechanisms of control. This has just been made clear with respect to the guide function. As to the efficacy of credit control through securities-exchange control, it was pointed out in the previous chapters of this book that much depended on the degree of co-ordination between the particular control measures and general credit policy. Discrimination against brokers' loans will hardly be successful during a runaway boom if, at the same time, the authorities choose to continue an easy-money policy. Yet the system now adopted in the United States seems to provide the monetary authorities with better checks against an inflationary inundation of the stock market than were at their disposal in the past. On the one hand, margin regulations can reduce the buying of securities with borrowed funds and, on the other hand, control over the issuing of new securities can severely restrict the effective demand for these funds. This two-handed control ought to be capable of preventing inflationary financing of private industry as long as the monetary authorities care to do so.

The present means of control seem to be effective checks on the inflationary financing of private industry.

The inflationary financing of the public budget is another matter.

---

[5] Woodlief Thomas, "Use of Credit in Security Speculation," *American Economic Review*, Vol. XXV, 1935, appears to accept both functions. Cf. p. 21: "More effective control of stock market credit is necessary for business stability. Adequate control may be exercised over supply of funds only by making stock market activity the principal guide of credit policy."

APPENDICES.

APPENDIX A

THE MOVEMENTS IN LEDGER BALANCES OF BANKS AND BROKERS ARISING OUT OF STOCK EXCHANGE OPERATIONS

The five illustrations in Chapter VII are followed up here in the form of daily movements of ledger balances The essential items in the balance sheets of banks and brokers at the outset are the following

All banks		All brokers	
Cash (reserve balances) Loans to brokers Other loans and discounts Securities	Demand deposits Time deposits	Cash (bank deposits) Loans to customers	Customers' deposits Loans from banks Loans from others

Only the changes in these items, as resulting from the operations discussed in the text, will be shown here The various customers will be denoted by the letters A, B, C, &c , their brokers by A^1, B^1, C^1, &c

First illustration (*p* 99)

Monday

All banks		All brokers	
Loans to brokers (A^1) – 20,000	Demand deposits (A) – 20,000		Customers' deposits (A) + 20,000 Loans from banks (A^1) – 20,000

Wednesday

All banks		All brokers	
Loans to brokers (A^1) + 19,500 (B^1) – 19,500			Customers' deposits (A) – 19,500 (B) + 19,500 Loans from banks (A^1) + 19,500 (B^1) – 19,500

Thursday

All banks		All brokers	
Loans to brokers $(B^1) + 7500$	Demand deposits $(B) + 7500$		Customers' deposits $(B) - 7500$ Loans from banks $(B^1) + 7500$

Friday

All banks		All brokers	
Loans to brokers $(B^1) + 12\,000$ $(C^1) - 12\,000$			Customers' deposits $(B) - 12\,000$ $(C) + 12\,000$ Loans from banks $(B^1) + 12\,000$ $(C^1) - 12{,}000$

Net changes for the whole week

All banks		All brokers	
Loans to brokers $-12{,}500$	Demand deposits $-12\,500$		Customers' deposits $+12{,}500$ Loans from banks $-12{,}500$

Second Illustration (p. 103)

Tuesday

All banks		All brokers	
Loans to brokers $(A^1) + 10\,000$ $(B^1) - 10\,000$		Loans to customers $(A) + 10\,000$	Customers' deposits $(B) + 10\,000$ Loans from banks $(A^1) + 10\,000$ $(B^1) - 10{,}000$

Wednesday

All banks		All brokers	
Loans to brokers $(B^1) + 5000$	Demand deposits $(B) + 5000$		Customers' deposits $(B) - 5000$ Loans from banks $(B^1) + 5000$

Thursday

All banks		All brokers	
Loans to brokers $(B^1) + 8000$ $(C^1) - 8000$		Loans to customers $(B) + 3000$	Customers deposits $(B) - 5000$ $(C) + 8000$ Loans from banks $(B^1) + 8000$ $(C^1) - 8000$

Net changes for the whole week

All banks		All brokers	
Loans to brokers +5000	Demand deposits +5000	Loans to customers +13 000	Customers' deposits +8000 Loans from banks +5000

Third illustration (p 109)

Tuesday

All banks		All brokers	
Loans to brokers (A^1) + 25 000 (B^1) + 18 000 (C^1) − 21,000	Demand deposits (A) − 10 000 (M) + 32,000	Loans to customers (A) + 25 000 (B) + 18,000	Customers' deposits (A) + 10,000 (A) − 10,000 (C) + 21 000 Loans from banks (A^1) + 25 000 (B^1) + 18 000 (C^1) − 21,000

Thursday

All banks		All brokers	
Loans to brokers (C^1) − 12,000 (B^1) + 6,000	Demand deposits (M) − 32,000 (N) + 20 000 (B) + 6,000	Loans to customers (B) + 6000	Customers deposits (C) − 20 000 Loans from banks (C^1) − 12 000 (B^1) + 6000 Loans from others (C^1) + 32,000

Net changes for the whole week

All banks		All brokers	
Loans to brokers +16,000	Demand deposits +16,000	Loans to customers +49 000	Customers' deposits +1000 Loans from banks +16,000 Loans from others +32,000

Fourth illustration (p 117)

Tuesday

All banks		All brokers	
Loans to brokers (A^1) + 30 000 (B^1) − 30,000		Loans to customers (A) + 30 000	Customers' deposits (B) + 30 000 Loans from banks (A^1) + 30,000 (B^1) − 30,000

Wednesday

All banks		All brokers	
Loans to brokers (B^1)+30,000 (C^1)−10,000 (D^1)−20,000	Demand deposits (B)+30,000 (B)−30,000	Loans to customers (C)+20,000	Customers deposits (B)−30,000 (D)+20,000 Loans from banks (B^1)+30,000 (C^1)−10,000 (D^1)−20,000 Loans from others (C^1)+30,000

Friday

All banks		All brokers	
Loans to brokers (D^1)+15,000 (A^1)−15,000	Demand deposits (D)+10,000 (D)−10,000	Loans to customers (A)−5000	Customers deposits (D)−10,000 (D)−5000 Loans from banks (D^1)+15,000 (A^1)−15,000 Loans from others (A^1)+10,000

Net changes for the whole week

All banks		All brokers	
		Loans to customers +45,000	Customers' deposits +5000 Loans from others +40,000

Fifth Illustration (p. 122)

Tuesday

All banks		All brokers	
Loans to brokers (X^1)+15,000 (A^1)−16,000	Demand deposits (A)−1000	Loans to customers (A)−15,000 (A)−1000	Customers deposits (B)+15,000 (B)−15,000 Loans from banks (X^1)+15,000 (A^1)−16,000 Loans from others (X^1)−15,000

Net changes

All banks		All brokers	
Loans to brokers −1000	Demand deposits −1000	Loans to customers −16,000	Loans from banks 1000 Loans from others −15,000

APPENDIX B

THE CIRCULATION OF BROKERAGE DEPOSITS

Brokerage deposits are the credit balances held with stockbrokers by customers. These balances constitute a special sort of "money," the quantity of which increases elastically in times of heavy stock exchange tradings. Its velocity of circulation is capable of rising extremely high.

This "money" is held by the brokers' customers chiefly on account of the "transactions motive," that is to say the recipients of such money, sellers of securities, are going to disburse it currently as buyers of other securities; this money may be held also on account of the "speculative motive," that is to say, the recipients of such money may be holding it until security prices have fallen. However, the balances held with the brokers on account of the "speculative motive" are normally not large, because the owners prefer to switch their funds to bank deposits or to claims against call money.

The brokerage deposit may be primary or derivative. From the point of view of the individual broker the customers' balances come into being, firstly, through deposits of "cash" (in the form of bank cheques) by the customers who have given (or intend to give) orders to buy, or on the customers' account for dividends received; and secondly, through a sale of paid-up securities for the customers' account. For all brokers together, however, customers' balances come into being, firstly, through deposits of "cash" (as before) and, secondly, through loans to customers.

The "reserves" held against brokerage deposits are the brokers' bank deposits. The slower is business on the stock exchange, the higher will be the "reserve ratio." In times of a small volume of stock trading, customers' brokerage balances are low, while the brokers' bank balances cannot fall too low; thus the "reserve ratio" may approach 100%. In times of a large volume of stock trading, customers' balances with brokers are high, while brokers' balances with banks need not be much increased; thus the "reserve ratio" may fall considerably.

Brokerage deposits do not play the conspicuous role in the brokers' statements that is played by bank deposits in the banks' statements The other liabilities of the brokers (their partners' capital and loans from banks and others) are usually much higher than the credit balances of their customers; after all, brokers are not bankers. This circumstance does not do away with the significant facts (1) that the brokerage deposits can rise without a corresponding rise in the brokers' bank deposits, which implies that bank funds are released, and (2) that the brokerage deposits can circulate with high velocity, which implies that they function as circulating media between purchasers and sellers of securities

How Brokerage Deposits Rise through Primary Deposits

If a customer deposits an amount with his broker, the bank deposit of the customer becomes a bank deposit of a broker. If brokers do not need increased "cash," they repay part of their indebtedness to the banks This is illustrated by these accounts—

First step

All Banks

Cash (reserve balances) Loans to brokers Other loans and discounts Securities		Demand deposits Time deposits	

All Brokers

Cash (bank deposits) Loans to customers	+	Customers' deposits Loans from banks Loans from others	+

Second step

All Banks

Cash (reserve balances) Loans to brokers Other loans and discounts Securities	–	Demand deposits Time deposits	–

All Brokers

Cash (bank deposits) Loans to customers	–	Customers' deposits Loans from banks Loans from others	–

The two steps combined

All Banks

Cash (reserve balances) Loans to brokers Other loans and discounts Securities	–	Demand deposits Time deposits	

All Brokers

Cash (bank deposits) Loans to customers		Customers deposits Loans from banks Loans from others	+ –

The increase in brokerage deposits was here due to the "primary" deposit by a customer. Brokerage deposits will be maintained at their increased volume as long as the customers who sell do not withdraw funds from the stock market. In the case illustrated above, the increase in brokerage deposits resulted in the liquidation of bank loans and the wiping out of bank deposits. If the lending capacity of the banks is utilized and, therefore, other bank loans or investments are expanded, the volume of bank deposits will rise again. The brokerage deposits are then a net addition to the total supply of "money."

HOW BROKERAGE DEPOSITS CIRCULATE

This special sort of money circulates, of course, only between the customers of brokers. The customer who buys is debited, the customer who sells is credited on his brokerage account. If these customers keep their accounts with the same broker, no other change in balances occurs. If the customers keep their accounts with different brokers, a corresponding transfer of "loans from banks" will take place between brokers (i.e., one broker borrows, another repays a bank loan). Credit and debit entries in the brokers' bank accounts will be only a fraction of the entries in the customers' brokerage accounts, because the "cash" transactions between the brokers are confined to the net clearing balances. The visible turnover of the customers' brokerage deposits is thus a multiple of the visible turnover of the brokers' bank deposits.

Apart from clearing balances between brokers, and so long as stock transactions take place between brokers' customers who do not withdraw their deposits except for the purpose of buying other securities, one can say no other sorts of money than brokerage deposits are involved in the transactions.

The brokerage deposits decline if a depositor, usually a seller of stocks, withdraws from the stock market. In this case the exact contrary of what was illustrated above will take place. The bank loan obtained by the broker will give rise to a bank deposit of the customer who has withdrawn.

HOW BROKERAGE DEPOSITS RISE THROUGH BROKERS' LENDING

If a customer buys securities on margin and the seller does not withdraw the sales proceeds from the stock market, brokerage deposits are increased without any net change in bank loans and bank deposits. If buyer and seller keep their accounts with different brokers, a transfer of "loans from banks" will accompany the transaction; the broker of the margin buyer will borrow, the broker of the seller will repay a bank loan. The net result is illustrated by these accounts:

All Banks

Cash (reserve balances)		Demand deposits	
Loans to brokers		Time deposits	
Other loans and discounts			
Securities			

All Brokers

Cash (bank deposits)		Customers deposits	+
Loans to customers	+	Loans from banks	
		Loans from others	

One might say that, in the end, it is the seller who has loaned to the buyer by leaving the sales proceeds on his brokerage deposit. Yet such a statement would be misleading because the seller may have used his brokerage deposit on the very next day to purchase other securities, and likewise each consecutive seller may use his purchasing power for buying other securities: thus no particular depositor may act as "lender." As long as nobody withdraws from the stock exchange, the brokers' lending to the margin buyer has "created" brokerage deposits which function as the customers' money for further transactions.

The brokerage deposits decline if a seller of stocks uses his proceeds to reduce his margin debt to the broker. In this case the contrary of what was shown by the last illustration occurs.

Conclusion

Brokerage deposits are circulating media for security transactions between the brokers' customers. Brokerage deposits come into existence (1) through deposits of bank money and (2) through lending by brokers. In the former case bank funds are released and the lending capacity of banks is increased; in the latter case bank funds are not involved. In neither case, therefore, does an increase in brokerage deposits diminish the lending capacity of the banks; in neither case does it affect the banks' reserve balances and, thus, the potential volume of bank deposits. An increase in brokerage deposits may, thus, be regarded as a net increase in the supply of money for the specific purpose of securities transactions.

APPENDIX C

STATISTICAL NARRATIVE FOR THE UNITED STATES

How large were the funds which flowed onto the securities markets in a certain period? What was the origin of the funds which were devoted to the purchase of securities? What did the brokers do with the funds received; to whom were they paid out? What did the sellers of securities do with their sales proceeds? How large were the funds which came to corporations for newly issued securities, and what did the corporations do with the funds received? How much of these funds went into real investment?

These and other questions ought to be answered in a statistical narrative. But it cannot be done. No information is available that would enable us to get even near a satisfactory answer. The statistical data we do have contain far less information than has often been believed. Naive interpretations have led to conclusions which prove untenable on closer inspection.

The only statistics which can be produced to show certain "funds connected with security transactions" are the *statistics on brokers' loans*. It is, of course, a purely arbitrary procedure to attach much significance to these data because the funds actually employed for security purchases may be a fraction or a multiple of the figure of brokers' loans. We have no figure of the amount of their own funds which security buyers applied to security purchases; we have no figure of the funds which they borrowed through others than brokers. If we had the figure for the amount of their own funds that were put to security purchases, we should still not know very much unless we knew how much of these funds were proceeds from previous sales of securities, how much were proceeds from previous sales of other kinds of assets, and how much were new voluntary savings from income received.

As to the funds which security buyers borrow from the banks directly, i.e., not through their brokers, one might choose to take the statistics of *security loans of banks*. However, these loans on securities as collateral need not be used by the borrowers for purchases of securities. It is generally known that a large part of collateral loans are made to commercial borrowers for business purposes. But what part? There is no use guessing. There is no use assuming a constant proportion between collateral loans for business purposes, for consumption purposes, and for speculative purposes, because the proportion is undoubtedly shifting in the course of time, both secularly and cyclically. As I am ignorant of the portion that is used for security purchases, I refrain from reproducing here the statistics of the security loans of banks.

As the one series of figures whose connexion with the stock exchange cannot be doubted, the statistics of *brokers' borrowings* from 1926 to 1937 are shown in Table I. This table contains the borrowings of New York Stock Exchange members only, but the borrowings of brokers on the minor stock exchanges in the United States would not increase the figures very considerably.

It was the phenomenal rise of the New York brokers' borrowings from 3219 million dollars in September, 1926, to 8549 million dollars in September, 1929, which brought the subject of stock exchange credit into the limelight. It was these statistical series which were believed to inform us about the alarming "absorption" of credit by the stock exchange.

The data on brokers' borrowings are reported by the New York Stock Exchange. Seperate figures are given for borrowings from New York City banks and trust companies, and for borrowings from other sources. These other sources include other brokers. What amount of "inter-broker-loans" are among the borrowings from others than New York City banks is unknown, the New York Stock Exchange has information from its members on the "total of money loaned in firm name exclusive of money loaned as agent of others" only from 1932 onwards. Assuming that this money was loaned by brokers (directly or indirectly) to other brokers, the figures published here (with the kind permission of the New York Stock Exchange) in Table II may be taken as representative of the volume of inter broker-loans from 1932 to 1935. These figures are relatively small; the money loaned out by brokers was (in September, 1935) as little as .44% and (in August, 1932) no more than 6.78% of the brokers' borrowings. Whether inter-broker-loans were an equally insignificant (or still less significant) part of brokers' borrowings during the boom years cannot be ascertained, though it seems probable from deductive reasoning.

Table I does not tell whether the brokers' borrowings from the New York City banks were loans on these banks' own or on others' account. This information is given in the statistics of brokers' loans of New York City banks published by the Federal Reserve Board. Because of a change in classification since 1926 these statistics are reproduced here in two tables: Table III showing *Street Loans of New York City Banks*, 1922-1925, and Tables IV and IVa showing *Brokers' Loans of New York City Banks*, 1926-1935 and 1936-1939 respectively.

The totals in Table IV will be found to conform approximately to the figures in the corresponding column of Table I, "the slight differences are due not only to the different dates of compilation, but also to the fact that Reserve members sometimes lend to stock brokers and security dealers not members of the exchange, and also stock exchange firms sometimes borrow from New York banks and trust companies not members of the Reserve."[1]

Until 1935 New York City banks made three classes of loans to brokers: loans on account of banks outside of New York City, i.e., they acted as agents for out-of-town banks in placing funds of the latter on the New York call money market; loans on account of others, i.e., they acted as agents for non-banking firms in placing funds on call; and finally loans on their own account. In Chapter VII of this book, reasons were advanced as to why loans "on account of others" are of a totally different nature than genuine bank loans. It appears that these loans on account of others either liquidate existing bank loans (and thereby release bank reserves) or represent no funds at all (being merely the statistical expression of the fact that sellers of securities loan to buyers of securities, with no funds involved in the transaction). For the problem of the flow of funds to or through the securities market or for the problem of "credit absorption," it is not the *total* of brokers' loans by banks, but only the brokers' loans by banks for their own account or for account of other banks which are really relevant. Compared with the phenomenal rise which the total of brokers' borrowings, and the total of all bank loans to brokers, showed during the latter part of the twenties, the rise in brokers' loans for account of banks (i.e., exclusive of the loans on account of others) is less alarming. Between September, 1926, and September, 1929, brokers' loans for account of out-of-town banks rose from 1128 to 1850 million dollars, and brokers' loans for the New York member banks' own account rose from 974 to 1048 million dollars, hence together they rose from 2102 to 2898 million dollars.

---

[1] New York Stock Exchange Bulletin, August, 1930, p. 1.

The brokers' loans on account of others fell rapidly after the crash of October, 1929. They fell by more than 50% within two months, and then declined steadily. In 1931 they amounted only to about 5% of the record volume; they were further reduced by a change in clearing house rules in November, 1931, and later outlawed by the Banking Act of 1933. The last million disappeared in May, 1936.

The statistics of Tables I to IV refer only to New York brokers or New York City banks respectively. Figures for the whole country are available in the statistics of "All Member Banks." This information, in contrast to that on the "weekly reporting member banks in 101 leading cities," is confined to three or four call dates every year. The statistics of *brokers' loans by all member banks from* 1928 to 1939 is given in Table V. In order to allow a comparison of the volume of brokers' loans with the total of all loans, and with the total of all loans and investments by member banks, the respective figures are reproduced in Table V, together with the calculated percentages.

The comparison shows that the brokers' loans by member banks amounted to 14·04% of all loans in December, 1928, while they were lower than that during 1929: the absolute fall of brokers' loans by banks (on their own account) and the rise of other bank loans during 1929 reduced the percentage to 10·79 on October 4, 1929 (before the crash). The percentage was higher again in 1930, and began to fall only in 1931, reaching a low of 3·38 in June, 1932. It was partly due to the fall in other bank loans, but mainly to a recovery of brokers' loans, that the ratio of brokers' loans to all loans rose again and exceeded 10% in June, 1934, and from December, 1935, to June, 1937.

The general change in the composition of bank assets, in particular the steady increase in security holdings of banks from June, 1933, to December, 1936, made the ratio of brokers' loans by all member banks to their total loans and investments behave differently. The ratio of 9·90% in December, 1928, has not been approached at any time since. From September, 1931, to June, 1938, the ratio of brokers' loans to all member bank loans and investments has never reached 5%.

Attention should be drawn once again, however, to the fact that brokers' loans are by no means the only way in which bank funds may be used for stock exchange purchases. We have already referred to the security loans by banks, and might mention here that during the boom period of the twenties, security loans comprised up to 30% of the banks' total loans and investments.

In connexion with the statistics of brokers' loans it is appropriate to reproduce the statistics of the *rates charged on stock exchange call loans*. Table VI furnishes these figures. We can see that the monthly average of call rates rose from 2% per annum in August, 1924—the low of the twenties—to 9·8% in March, 1929. The low rate of 2% was reached again no later than in 1930. A new low was recorded in 1935 when the rate stayed for five months at ·25%. From June, 1936, on, the rate was absolutely stable at 1·00%; competition has apparently been restricted on the call money market.

One of the ways in which funds may flow from the stock exchange into industrial circulation is through new security issues. Just as brokers' loans were not the only type of inflow to the stock exchange, capital issues are not the only type of outflow. Sellers of old securities can withdraw their proceeds and use them for purchases of products and services just as sellers of new securities can. Real investment can be undertaken out of sales proceeds from old securities just as out of sales proceeds from new securities. The statistics of capital issues may thus show figures which may represent only a fraction of the funds actually put to new real investment; but they may equally well be a multiple of the funds actually so employed, because the capital raised may not have been used for investment purposes at all. Apart from refunding operations, the funds raised by corporations may have been used for purchasing assets from holders who may use the proceeds for absolutely anything—including consumption, security purchases, lending out, accumulating idle balances or what not. Or the corporations themselves may use the funds for all these things, including call loans to the stock exchange which indirectly involve loans to the buyers of their securities; in this case no funds flow either to the stock market or to the issuing corporations (see Chapter VII).

With this proviso we reproduce the statistics on *Capital Issues.* Table VII gives annual figures from 1922-39 of all flotations of bonds and stocks, new and refunding, domestic and foreign, government and corporate. The rise and fall of the total issues from 5119 million dollars in 1923, to 11,513 million dollars in 1929, and to 1063 million dollars in 1933 is impressive enough, yet it is less impressive than the rise and fall in corporate stock issues from 570 million dollars in 1922, to 5924 million dollars in 1929, and to 20 million dollars in 1932.

These securities were issues by industrial and by financial corporations. There is no doubt that the proceeds from the issues of financial corporations did not flow directly into industrial circulation. We do not mean to imply that the proceeds of the issues of industrial and other non-financial corporations did necessarily flow into industrial circulation, we have said expressly that they did so only in part (and perhaps only in small part); the whole of the capital raised by financial corporations certainly remained in the financial circulation for further transactions. For this reason it is appropriate to separate the issues of financial and of non-financial corporations as is done, beginning from 1926, in the series of Table VIII.

In this Table VIII the *monthly figures of new security issues by corporations* are shown. It is interesting to see that the new stock issues by financial corporations which usually amounted to only a small percentage of the stock issues of non-financial corporations (4.94% in 1926, 6.30% in 1927) rose enormously in 1928 and 1929 (26.76% in 1928 and 52.84% in 1929) and indeed exceeded the non-financial issues in August and September, 1929.

It is a commonplace to state that corporations are likely to issue new shares when they can sell them easily and at good prices. Nevertheless, it may be useful to have the series of corporate stock issues and the series of stock prices side by side with the figures of stock issues freed from the fortuitousness of the calendar month by means of three-month moving averages. Table IX presents these series from 1922 to 1939. *Three-months moving averages of the new stock issues of non-financial corporations* are shown with the *stock price index;* the result is the expected one: the amount of capital raised generally varies directly with stock prices.

A chart showing these series in two curves might serve to demonstrate the speed (or absence of lag) with which corporate capital issues react on higher stock prices. This reaction might be expressed also in another form. The corporations offer new shares against money capital, i.e., they demand money capital for which they pay in new shares. If stock prices are low, corporations have to give many shares for 100 dollars of money capital and they will not demand large amounts; if stock prices are high, corporations have to give fewer shares for 100 dollars of money capital and they will demand larger amounts. The reciprocal of stock prices can thus be considered as the price of money capital in terms of corporate shares. If stock price movements were the only changes in data, the relative change in money capital raised might be expressed by the elasticity of demand for money capital in terms of corporate shares.

It can be argued that the demand for money capital in terms of shares is extremely elastic, but this cannot be proved by statistics. If the amounts of money capital raised are plotted along the abscissa, and the reciprocals of the stock price index along the ordinate, the scattered points in fact suggest the form of an elastic demand curve—but to accept this as a proof is to overlook the fact that in times of low prices of money capital (i.e., in times of high stock prices) profit expectations of firms may be increased so that the cheap and easy money is by no means the sole attraction for issuing corporations.

The figures on foreign capital issues included in Table VII (as well as the considerations in Chapter X) invite inspection of the statistics of *capital movements* (both long and short term) into and out of the United States. Table X reproduces the figures on capital movements as contained in the United States Balance of International Payments, 1922-1938. The net movements of long-term capital do not seem to permit of an interpretation in terms of cycle analysis or stock market analysis. Whereas net outflows of long-term capital were observed from 1924 to 1930, net inflows were the order from 1931 on. The explanation of this circumstance is likely to be in the political field. Prosperity and depression, security market boom and slump, seem to affect not the direction but merely the volume of capital movements in both directions. Both inflow and outflow of long-term capital increased considerably from 1924 to 1928, decreased from 1929 to 1932, and increased again from 1934 to 1936. The excess of outflow above inflow, or inflow above outflow, does not reveal any cyclical influences.

The net movements of short-term capital also resist interpretation in terms of cycle or stock market analysis. These movements of short term balances due from and to foreign countries are the resultants of so many complex forces that a single-track relationship, or a correlation with any one factor, could not be expected.

None of the statistics discussed so far has given us any clue or hint as to the problem of "absorption of funds" by security markets. Three tests would be necessary to prove or disprove the "absorption" hypothesis. As stock exchange credits rise (1) does or does not the increment of these loans or a considerable part of it appear in an increase in cash balances held by brokers? (2) Does or does it not appear in an increase in idle cash balances held by the sellers of securities? (3) Does or does it not appear in an increase in cash balances of private speculators and financiers (individuals and firms) who switch the funds back and forth among themselves in repeated financial transactions?

No statistical information whatsoever was available during the twenties which would have permitted an answer to the three questions. Some reliable estimates can be said to have answered the first question in the negative: the brokers' cash balances were found to be so trivial in relation to the brokers' borrowings that to allege credit absorption in this form would have been almost ridiculous. One of these estimates hit upon an amount of about 20 million dollars as the average of New York brokers' balances from 1922 to 1926, i.e., at a time when the New York brokers' borrowings amounted to between one and three and a half billion dollars.[2] According to other findings the ratio of "cash in bank" to "total borrowings" was 2.28% in a representative case, checked by a number of other tests.[3] The same source estimated brokers' balances in September, 1929, at about 100 million dollars as compared with the 8549 million dollars borrowed by brokers.[4]

---

[2] James H. Rogers, *Speculation and the Money Market*, p. 8.

[3] *The Security Markets*, Findings and Recommendations of the Twentieth Century Fund, New York 1935, Chap. X, by Wilford J. Eiteman, p. 309. That the percentage was much higher from 1936 to 1939 will be seen presently.

[4] *Ibid*, p. 310. "In other words members of the New York Stock Exchange had approximately $100 million in their possession during September, 1929, although it was claimed at the time that their cash holdings were depriving legitimate business of some $8.5 billion."

No material was or is available to allow estimates or guesses concerning a possible accumulation of idle balances by security sellers, and concerning the operating balances on bank accounts of speculators and financiers. Attempts have been made to find some clues by studying changes in the geographical distribution of deposits and reserves.[5] It was found that the rise in New York brokers' borrowings in some periods was, and in other periods was not, accompanied by a redistribution of bank deposits and reserves between the New York area and other regions. These findings are not particularly indicative in either direction. Bank deposits may be kept idle or kept waiting for further financial transactions by provincial holders no less than by New York holders.

Information about *brokers' cash balances* has been collected and published for recent years (from September, 1935, on) by the Federal Reserve Board. These figures are reproduced in Table XI. The cash balances carried by brokers are higher than had been estimated for the twenties; they fluctuate between 179 and 268 million dollars as compared with the 20 and 100 million dollars respectively in the estimates for the early and late twenties. Were these estimates too low or do the brokers now carry much more cash than some 10 years ago? Probably both are true to some extent. Among the several reasons which might explain why brokers now hold higher bank balances than in the past, are the stricter rules imposed by supervising authorities, and the low money rates. The latter make the cost of carrying cash lower than the inconvenience of repaying and rearranging call loans.

Besides brokers' cash balances, Table XI shows other ledger balances of New York Stock Exchange members: their *margin loans to customers* ("customers' debit balances"), their *total borrowings* ("money borrowed"), and the *customers' deposits* with them ("customers' credit balances"). These series cover only a relatively short period (September, 1935, to July, 1939), but a period which contains a conspicuous rise, a break and a sharp fall of stock market values. Before any comparisons between the various series are made it should, however, be emphasized that the absolute and relative magnitudes during this period were very different from those of the boom period in the twenties. In the period covered in

---

[5] Calvin B. Hoover, "Brokers' Loans and Bank Deposits," *Journal of Political Economy*, 1929, Vol. XXXVII, pp. 713-727. Similar studies were made by others.

Table XI, brokers' borrowings rarely exceeded one billion dollars, a very modest figure compared with the eight and a half billion dollar record of 1929. Customers' deposits rarely exceeded 400 million dollars, whereas they undoubtedly reached a multiple of this figure in the late twenties. With brokers' cash balances higher and all the other items lower than in the twenties, the ratios between the various ledger balances are, of course, totally different now from what they were then.

The percentage ratios of the cash balances to each of the other items are given also in Table XI. The way in which the percentages fluctuate strongly suggests absence of correlations. The ratio of cash to margin loans to customers varied from 13.39% to 27.78%. The low was in August, 1937—when the margin loans were the third highest of the period—the high was in June, 1938—when margin loans were the second lowest.

The ratio of brokers' cash to their borrowings varied from 16.38% to 43.43%. Again, the low was in August, 1937, when borrowings were highest, the high in June, 1938, when borrowings were next to the lowest. The poor hypothesis that brokers' borrowings rise because of the brokers' increased demand for cash balances would have needed the reverse of these results for its support.

The comparison of our ratios of cash to borrowings of between 16.38% and 43.43% with the ratio of 2.28% estimated for autumn, 1929,[6] is striking. Even if the cash balances in 1929 had been considerably higher than they were estimated to be, the ratio of cash to borrowings would still have been extremely low. It seems thus more than obvious that the considerable changes in brokers' demand for cash balances are neither cause nor effect of changes in the brokers' borrowings.

The third ratio shown in Table XI is that of brokers' cash balances to customers' brokerage deposits. There are again wide fluctuations of this ratio: between 46.17% and 69.39%. The range of fluctuations seems relatively smaller than in the two other ratios, but this is only due to the arithmetic of the matter; in the two other cases the denominators of the fractions (loans to customers and brokers' borrowings respectively) were much larger than in the third case (customers' deposits). The ratio of brokers' cash to customers' deposits is so surprisingly high, not because brokers are in the habit of holding so high a "reserve ratio," but rather because brokers' cash balances are not dependent on customers' deposits and cannot be reduced when customers' deposits fall. Likewise, the cash balances need not be increased when customers' deposits rise. One may thus assume that the ratios of cash to deposits were incomparably lower in the boom period of the twenties, when customers' deposits were undoubtedly very high. Unfortunately no figures are available for that period. It seems, however, obvious that customers' balances with brokers must be higher when many customers are engaged in continuous in-and-out trading. Even if customers reinvest immediately after each sale and have their credit balance only for a short interval, the sum total of trading accounts must show a high credit balance in such periods.

---

[6] See footnote 3 on page 318.

The hypothesis that brokers' cash balances must rise when stock prices rise and/or when brokers' borrowings rise does not hold water. This has been shown by deductive reasoning. The figures which are available from September, 1935, on might be considered further evidence if such were needed and if so short a time series were acceptable as evidence. Table XII facilitates a *comparison of brokers' cash balances with stock prices and brokers' borrowings* by giving the index figures of the three series. January, 1936, has been chosen as the base, because the Federal Reserve index of common stock prices, which uses 1926 as a base, happens to be at 100.1 in January, 1936. To take this as our base after eliminating the decimals saved us recalculating this index series. For the same reason the Federal Reserve index was used here in contrast to Table IX where the Standard Statistics stock price index was used.

The indices of brokers' cash balances and of brokers' borrowings were calculated from the original figures contained in Table XI. The peak of the cash index was 139 in April, 1936, when the stock price index was only 109 (as against its peak of 130 in March, 1937) and the index of borrowings was only 112 (against its peak of 134 in August, 1937). Another high of the cash index was 137 in October, 1937, when both the index of stock prices and the index of borrowings were low (91 and 85 respectively) and, moreover, falling. The coefficient of concurrent deviations from September, 1935, to July, 1939, was negative ($r = -.36$) for brokers' cash balances and stock prices, and was equally negative for brokers' cash balances and brokers' borrowings. Although it is not intended to draw conclusions from the scant statistical material at our disposal, the figures presented strongly suggest the opinion that brokers did not borrow in order to hold cash balances, nor did they hold cash balances because of high stock prices

The belief that brokers must hold higher cash balances when the volume of transactions rises, prompts a comparison of the relevant figures. Since, however, the volume of payments arising out of stock transactions is not proportional to the volume of stock transactions, the relation between transactions and settlement has to be examined first

The New York Stock Clearing Corporation publishes statistics on the "obviation of the use of bank credit," i e, on the absolute and relative amounts of transactions which were settled through the clearing mechanism and, thus, did not give rise to cheque payments. The annual averages of "percentage obviation" are reproduced in Table XIII which gives the *theoretical obviation of cheque payments from* 1925 *to* 1938. Monthly figures, available only from March, 1929, on, are reproduced in Table XIV, which gives *total clearing house transactions and clearing house balances settled by cheque* together with the percentage obviation. The highest obviation figure during this period was 85.4% (in August, 1932), the lowest 61.1% (in September, 1934). The former refers to cheque payments of 496 million dollars settling 3385 million dollar transactions; the latter refers to cheque payments of 464 million dollars settling 1195 million dollar transactions. These figures illustrate our thesis that a higher volume of security transactions need not give rise to a higher volume of payments.

Closer inspection of the series will, however, show that the "funds actually required," i e, the volume of cheque payments, did not remain entirely unchanged when the volume of transactions increased. The percentage of payments to total transactions decreased, of course, when transactions rose, and increased when transactions fell; but the absolute amount of payments still, though only slightly, increased with higher transactions, and decreased with lower transactions. The highest volume of payments coincided with the highest volume of security transactions (October, 1929); and, likewise, the second lowest volume of payments coincided with the third volume of security transactions (February, 1938). The explanation of the concurrent movements seems to lie in the fact that increased business frequently involves a somewhat uneven distribution of the increased selling and buying orders between different brokers

Do increased security transactions, which may thus be accompanied by increased clearing balances to be settled by cheque, cause brokers to carry larger cash balances? With the statistics of brokers' cash balances available since September, 1935, the series can be compared for the last four years Table XV is concerned with the *volume of transactions on the stock exchange*, with the *actual cheque payments* settling these transactions, and with the *brokers' bank balances* Many of the calculated figures of this table suffer, however, from an irreparable defect While transactions and settlements refer to a period of time (months), cash balances refer to a point of time (end of months) Similar calculations (e g, of velocities of circulation) usually adopt the method of comparing an average of daily cash balances with the amounts transacted or settled during the period Such a procedure was not possible in our case because the end-of-the-month figures of cash balances are the only ones available To take an average between the cash balances of the end of the month and those of the end of the preceding month seemed too arbitrary a makeshift

The total value of clearing house transactions was again taken as representative of the volume of security market transactions, although we should find that there are differences between the figures reported by the clearing house and the figures reported for the total value of securities sold The differences are due to delayed deliveries and settlements, and to securities loaned via the Stock Clearing Corporation [7] For a comparison with the actual settlements by bank cheques the value of clearing house transactions is certainly the appropriate figure to take

During the period covered by Table XV the highest volume of clearing balances settled by cheque was 785 million dollars, in January, 1936, at the end of that month brokers' cash balances amounted to 193 million dollars A very low volume of clearing balances settled by cheque was 269 million dollars, in February, 1938, the brokers' cash balances carried at the end of that month were 207 million dollars These figures suggest anything but a correlation. The cash balances in March, 1936, were relatively the lowest, with 23.12% of the payments of the month and 5.34% of total transactions, the cash balances in February, 1938, were relatively the highest, with 76.95% of the payments of the month and 20.84% of total transactions. It seems fairly obvious that the changes in the relative cash position are chiefly the result of fluctuating transaction volumes and insensitive cash balances. With a coefficient of concurrent deviations from September, 1935, to June, 1939, of only + .49, the assumption of a correlation between brokers' cash balances and security transactions does not seem to be warranted.

---

[7] For this explanation I am indebted to Professor W J Eiteman

If there is no, or only little, correlation between cash balances and transaction volumes, it is obvious that there must be a fairly high correlation between transaction volumes and the velocity of circulation of the cash balances. Velocity of circulation of the cash balances may be understood as the ratio to cash balances either of total transactions or of actual payments. The former would be "virtual velocity" comprising the efficiency of the clearing mechanism, the latter would neglect the transactions that were offset through the clearing procedure. Since we are used to expressing velocity as the number of times a thing is turned over per year, the monthly figures of Table XV were, for the computation of velocities *per annum*, multiplied by 12. The lowest velocities during the period covered were 15.6 with reference to actual cheque payments, and 55.3 with reference to total transactions. The highest velocities were 51.9 and 224.8 respectively.

It should be noted that neither of the velocity figures that refer to brokers' cash balances are, in point of fact, descriptive of the stock exchange settlement mechanism, for the following reason. For the payment of clearing balances, brokers employ "bank funds" which are on their accounts neither at the beginning nor at the close of the business day. The broker who has to pay an adverse clearing balance usually arranges a bank loan, in the course of the day, while the broker who receives payment for a favourable clearing balance usually repays a bank loan before the close of business. No credit balances remain on the brokers' bank accounts from these transactions. Where brokers borrow or use their favourable clearing balances for payments to customers, it is again not the brokers who carry a cash balance.

Thus, bank funds may be said to be employed even if they do not show in the balances of the close of the day

If one bank lends and another is repaid, the latter cannot usually relend before the next day Similarly, if one bank lends and brokers' customers obtain "derived" deposits with other banks, it is usually only on the next day that these deposits can be drawn upon For this reason all *new* brokers' loans were said to be "absorbed" for one day On the basis of this notion a velocity of circulation of "security trading funds" was calculated These "security trading funds" included brokers' cash balances (at the close of the day) plus new brokers' loans (placed during the day) plus new brokers' deposits of receipts (deposited during the day but possibly offset by withdrawals) [4]

The "security-trading funds" in the sense discussed above are bank funds The trading funds of the public, however may be, in large measure, brokerage deposits, i e, customers' free credit balances with brokers It is possible that a greatly increased volume of security transactions may be completed with an increase in velocity of circulation of these brokerage deposits without any increased payments of clearing balances between brokers provided selling and buying orders are more evenly distributed among brokers It is also possible that a greatly increased volume of securities may be bought with a great increase in customers' margin debts without any increase in payments between brokers and without any increase in brokers' loans and even without any shift of loans between brokers, provided that margin buying and selling with the intention of further trading are evenly distributed among brokers In such a case the increase in customers' debit balances would create an increase in customers' credit balances, and no bank funds whatsoever would be involved in these transactions.

---

[4] James H Rogers, "The Effect of Stock Speculation on the New York Money Market," *Quarterly Journal of Economics*, 1926 Vol XL, p 435 *et seq* Cf also the same author's *Stock Speculation and the Money Market*, 1927 p 14

Rogers' method was employed recently in a slightly modified form by William M Blaisdell, *Financing Security Trading* (1935) The results are not very enlightening Blaisdell assumes that the new brokers' loans are used once per day hence 250 times per year if only stock market days are counted (Blaisdell deducts 10 per cent. in order to account for inactive service balances, however compensating balances or service balances are seldom required for brokers loans) This (assumed) velocity figure is multiplied by a coefficient of clearing efficiency in order to account for check obviation If the obviation is 80 per cent total transactions are 5 times the check payments virtual "velocity" of these funds is then 1250 According to the fluctuations in the obviation rate Blaisdell's velocity figures vary between 1000 and 1600

No statistical information is available to show the extent to which the possibilities described were actually realized. The statistics of *transactions and customers' balances*, given in Table XVI, cannot throw much light on this question. The customers' balances[3] are end-of-the-month figures, whereas only average balances could be legitimately compared with the monthly transaction volumes. The correlation between the three series is not high enough to be useful as evidence either way. It is noteworthy however that of the 21 times that, between January, 1932, and June, 1939, the customers' credit balances exceeded 300 million dollars, 14 times were in months during which security transactions had exceeded two and a half billion dollars. If it is true that no increase in brokers' cash balances need accompany increased transaction volumes, the idea of "self-generated" security-trading media (in the form of brokerage deposits) suggests itself once more. Unfortunately no information on these matters is available for the boom years of the twenties.

With the scant material available, the statistical narrative of stock market behaviour in the United States had of necessity to be meagre. Nothing much more than a few sidelights on the relevant questions could be obtained from the examination of the data at our disposal. The more significant of our statistical series did not go back far enough to permit sufficient verification of the findings of our largely deductive analysis. This is regrettable because it is the past "heroic era" of the stock exchange for which factual information would be especially important.

It would still be possible, I think, to uncover more information about the years of greatest stock market activity. Records and books must be available in brokerage offices and in banks. The movements of brokers' bank deposits and of customers' brokerage deposits (and the turnover of these accounts) might be obtained for a representative sample. These series would have to be compared with the corresponding series of stock market transactions, stock prices and brokers' loans. Most revealing would be weekly or monthly statements of the brokers' "balance of payments," with the payments from and to customers broken down with respect to various types of customers such as individual traders, industrial corporations, financial corporations, &c. While this information may be obtainable with no over-serious difficulties another piece of information, perhaps the most crucial of all, seems to be inaccessible: the uses to which customers put the balances which they withdraw from their brokers. An inquiry extending to the brokers' customers would appear to be impracticable.

---

[3] I am indebted to the New York Stock Exchange for permitting me to use the (hitherto unpublished) figures of customers' balances for the years 1932 to 1935.

It may be worth considering whether something like the above-mentioned "balance of payments" statements of broker firms might not be obtained currently. To report at least the figures of the (gross) payments received from customers and (gross) payments made to customers during each month may not be too heavy an additional burden on brokers' offices (although they are, it is true, already badly inconvenienced by their existing current report duties). To know the total gross amount of payments from brokers to customers (and the ratio of this amount to total transactions) would be a valuable supplement to our knowledge, from the Stock Clearing Corporation statistics, of the total amount of inter-broker payments (and the ratio of this amount to the total transactions).

There are other pieces of information which one might obtain from more detailed bank statistics. We know the amounts of brokers' loans outstanding at certain dates, but it may be interesting also to know the gross movements of brokers' loans. The brokers' loans outstanding are, for the reporting member banks, end of the month figures. The daily gross movements of brokers' loans, inclusive of the so-called day loans (which are arranged and repaid before the close of business of the day) might tell us more about the current procedures. The gross amount of brokers' loans granted during a day may easily be a multiple of the net increase in loans outstanding at the close of the day. This may have implications with regard to the utilization of the banks' reserves, on the one hand, and the "virtual" velocity of circulation of the brokers' bank funds, on the other.

Thus we come back again to the problem of the financial circulation, and we may wonder whether it would not be possible to have the statistics of bank deposits and bank debits broken up according to types of depositors such as financial firms, industrial firms, large individual depositors and small individual depositors Such a decomposition of the figures representing the national money flow would certainly be most enlightening The expense may be higher than could be imposed upon the banks without compensation, but the information obtained may be well worth the cost

APPENDIX D

A FEW STATISTICAL FIGURES FOR ENGLAND

The statistical material concerning the relationship between stock market activity, the money market situation, industrial investment and monetary circulation was described as meagre for the United States. For the United Kingdom such material is, to my knowledge, almost non-existent. There are no figures published on the volume of stock exchange transactions, on stock exchange loans (beyond 1931), on stock exchange clearings or on the balances carried by stock exchange members.

In Table XVII we reproduce some of the few series which are available. These are the new capital issues for the United Kingdom, money lent at call and at short notice, call money rates, and an industrial stock price index. The first three series in Table XVII extend from 1922 to 1939; the industrial stock price index is given only from 1925 onward because its computation and base were changed at that time, and consequently earlier figures would not be comparable with those reproduced.

Money lent at call and at short notice is the sum of the amounts reported by 10, and since 1936, by 11, banks. These amounts, however, are not co-extensive with, but merely include stock exchange loans. The volume of stock exchange loans is known for the period from 1922 to 1931 inclusive, thanks to a study made by the MacMillan Committee in 1931. Table XVIII reproduces this series. A comparison with Table XVII shows that stock exchange loans amounted to from a fifth to a third of the total of "Money at call and at short notice."

Stock exchange loans were of very modest dimensions in London as compared with New York. The record figure for London of less than 52 million pounds sterling in April, 1928, looks quite diminutive in comparison with the 8549 million dollars, or that is, approximately 1762 million pounds sterling, which the New York Stock Exchange loans reached in September, 1929. The relative movements are likewise much smaller in London than in New York: the New York record was not far from three times the 1926 figure, the London record was some one and two-third times the 1926 figure.

The industrial stock price index shows clearly that the amplitude of fluctuations was much smaller in the London market than in the New York market. The London index, with the average of 1924 as a base, reached its high of 149 in January, 1929; the New York index of industrial stock prices, if based also on 1924 prices, reached its high in September, 1929, at 342. In the subsequent slump the London index fell to 73 in June, 1932; the New York index, again with 1924 as a base, reached its low in the same month at 52. The recovery carried the London index up to 170 in October, 1936; it carried the New York index up to 198 in February, 1937.[1]

The London fluctuations in stock prices (100: 149: 73: 170) differ from the New York fluctuations (100: 342: 52: 198) not only in amplitude but also by the fact that in London the peak in the thirties exceeded the peak in the twenties, while the opposite was the case in New York.

A comparison of the 1924-29 upswing in new capital issues for the United Kingdom with that for the United States does not show any striking difference as long as we consider total new issues without regard to the type of issue (government or corporate, bonds or stock). New capital issues for the United Kingdom reached in 1928 (the peak) more than three times the volume of 1923. In the United States the capital issues of the record year 1929 exceeded the 1922 or 1923 figures by a smaller rate. If regard were had to corporate capital issues or even to corporate stock issues, more violent fluctuations might possibly be seen in the United States, where stock issues in 1929 were more than 10 times as high as in 1922.[2] The shrinkage in total new capital issues after 1929 was drastic both in the United Kingdom and in the United States, but in the United Kingdom the lowest point in this item came in 1931 whereas in the United States it came only in 1933 and at a relatively lower level.

There are no data available which would throw any light on the problem of the absorption of credit or circulating media by the stock market.

---

[1] The New York index of industrial stock prices, reproduced in Table IX, is based on average prices in 1926; it stood at 248.6 in September, 1929, at 37.9 in June, 1932, and at 145.8 in February 1937. The average for 1924 was 72.7 on the 1926 base. For the purpose of the comparison the index was recalculated on a 1924 base.

[2] Statistics on various types of capital issues for the United Kingdom were published by the Midland Bank. See also A. T. K. Grant, *A Study of the Capital Market in Post-War Britain* (London, 1937), p. 166.

TABLE I

BROKERS' BORROWINGS

NET BORROWINGS ON COLLATERAL (ON CALL AND ON TIME) IN NEW YORK CITY AS REPORTED BY MEMBERS OF THE NEW YORK STOCK EXCHANGE

In Millions of Dollars

Month	1926			1927			1928			1929		
	Total	From New York banks and trust companies	From private banks brokers foreign banking agencies etc	Total	From New York banks and trust companies	From private banks brokers foreign banking agencies etc	Total	From New York banks and trust companies	From private banks, brokers foreign banking agencies etc.	Total	From New York banks and trust companies	From private banks, brokers, foreign banking agencies, etc
Jan -	3 613	3 043	470	3 139	2 670	469	4 420	3 806	616	6 735	5 664	1 071
Feb -	3 536	3 080	456	3 266	2 767	499	4 322	3 767	686	6 679	6 819	1 060
Mar -	3 000	2 553	447	3 290	2 790	600	4 640	3 947	693	6 804	6 713	1 091
April -	2 835	2 468	367	3 341	2 865	478	4 908	4 248	662	6 774	6 580	1 194
May	2 767	2 392	376	3 468	2 968	490	5 275	4 668	707	6 666	6 482	1,183
June	2 926	2 509	417	3 569	3 065	604	4 898	4 169	739	7 072	6 737	1 276
July -	2 998	2 583	416	3 642	3 146	497	4 837	4 180	687	7 474	6 154	1 320
Aug -	3 142	2 698	444	3 674	3 170	504	5 061	4 260	791	7 882	6 492	1 390
Sept -	3 219	2 745	474	3 915	3 340	675	5 513	4 647	968	8 549	7 077	1 472
Oct -	3 112	2 668	444	3 046	3 363	683	5 880	4 994	886	6 109	5 313	796
Nov -	3 129	2 836	493	4 092	3 519	573	6 391	5 412	979	4,017	3 432	686
Dec -	3 293	2 904	489	4 433	3 812	621	6 440	5 401	1 039	3,990	3 370	620

TABLE I—*Continued*

Month	1930			1931			1932			1933		
	Total	From New York banks and trust companies	From private banks, brokers foreign banking agencies etc.	Total	From New York banks and trust companies	From private banks, brokers foreign banking agencies etc.	Total	From New York banks and trust companies	From private banks, brokers foreign banking agencies etc.	Total	From New York banks and trust companies	From private banks, brokers foreign banking agencies, etc.
Jan. -	3,990	3 370	620	1 892	1 694	199	588	455	133	347	279	68
Feb. -	3,884	3 268	616	1 720	1 557	163	512	374	136	360	270	90
Mar. -	4 168	3 542	626	1 840	1 646	194	526	385	140	360	298	62
April -	4,657	4,026	631	1 909	1 692	217	533	391	142	311	247	64
May -	5,063	4,409	654	1 652	1 467	185	379	301	78	323	269	54
June -	4 748	4 136	606	1,434	1 293	141	300	243	57	523	461	66
July -	3,728	3 201	527	1 392	1 222	170	243	194	46	760	694	66
Aug. -	3,689	3 227	462	1 344	1 171	173	242	195	47	916	822	94
Sept -	3,598	3,109	488	1,354	1 160	194	332	248	84	918	842	76
Oct -	3,482	3 057	426	1 044	932	112	380	292	88	897	806	91
Nov. -	2,583	2 296	287	767	659	108	325	264	61	776	706	70
Dec. -	2 163	1 929	234	731	583	148	338	277	61	789	712	77

TABLE I—*Continued*

Month	1934			1935			1936			1937		
	Total	From New York banks and trust companies	From private banks, brokers foreign banking agencies, etc	Total	From New York banks and trust companies	From private banks brokers foreign banking agencies etc	Total	From New York banks and trust companies	From private banks brokers foreign banking agencies etc	Total	From New York banks and trust companies	From private banks brokers foreign banking agencies etc.
Jan	845	778	67	860	813	47	938	907	31	1,051	1 011	40
Feb	903	839	64	825	758	67	925	891	34	1,027	986	41
Mar	938	862	76	813	746	67	925	888	37	1,076	1,038	38
April	981	873	108	773	706	67	997	956	41	1,161	1,118	43
May	1,088	973	115	804	762	42	1,065	1,029	36	1,188	1,145	43
June	1 017	913	104	786	752	34	970	934	36	1,152	1,111	41
July	1 082	980	102	808	776	32	989	955	34	1,187	1,143	44
Aug	923	848	75	769	741	28	967	925	42	1,174	1,126	48
Sept	875	803	72	772	750	22	973	942	31	1,187	1,135	52
Oct	832	770	62	781	759	22	971	941	30	1,039	996	43
Nov	827	761	66	792	772	20	975	944	31	725	698	27
Dec	831	765	66	849	821	28	985	951	34	698	665	33

Sources 1926-1929—*Annual Reports of the Federal Reserve Board* (end of month figures)
1930-1937—*New York Stock Exchange Bulletins* (first of month figures)

TABLE II

MONEY LOANED OUT BY BROKERS

1932-1936

TOTAL OF MONEY LOANED IN FIRM NAME EXCLUSIVE OF MONEY LOANED AS AGENT FOR OTHERS

Date	1932		Date	1933	
	In millions of dollars	Ratio to brokers' borrowings (per cent)		In millions of dollars	Ratio to brokers' borrowings (per cent)
January 31	32·4	5·51	January 31	9·3	2·68
February 28	28·5	4·98	February 28	8·4	2·33
March 31	23·8	4·53	March 31	12·5	3·47
April 30	18·3	3·55	April 29	9·5	3·05
May 31	13·1	3·46	May 31	9·3	2·93
June 30	15·7	3·23	June 30	9·3	1·76
July 30	11·3	4·65	July 31	8·4	1·08
August 31	16·4	5·78	August 31	8·8	·72
September 30	13·7	4·13	September 30	8·2	·69
October 31	12·4	3·28	October 31	7·0	·78
November 30	11·4	3·51	November 30	9·8	1·26
December 31	16·5	4·48	December 31	7·8	·93

TABLE 11.—*Continued*

Date	1934		Date	1935	
	In millions of dollars	Ratio to brokers borrowings (per cent.)		In millions of dollars	Ratio to brokers borrowings (per cent.)
January 31	5·5	1·04	January 31	5·6	·66
February 28	7·7	·85	February 28	5·5	·67
March 31	6·6	·70	March 30	5·3	·65
April 30	15·5	1·58	April 30	4·2	·54
May 31	10·4	·96	May 31	4·0	·50
June 30	11·2	1·10	June 29	3·9	·45
July 31	7·1	·66	July 31	3·9	·48
August 31	10·3	1·11	August 31	3·8	·49
September 29	6·5	·74	September 30	3·4	·44
October 31	5·9	·71	October 31	4·7	·61
November 30	6·1	·74	November 30	4·9	·62
December 31	6·1	·73	December 31	5·6	·66

Source *New York Stock Exchange* (unpublished)

TABLE 111

BROKERS' LOANS

1922–1923

STREET LOANS (ON CALL AND ON TIME) BY REPORTING MEMBER BANKS IN NEW YORK CITY

Monthly Averages of Weekly Figures—in Millions of Dollars

Month	1922			1923		
	Total	For Correspondent	For Own Account	Total	For Correspondent	For Own Account
January	957	424	533	1,572	745	827
February	996	478	518	1,617	800	817
March	1,029	491	538	1,635	817	818
April	1,143	509	634	1,636	833	803
May	1,312	562	750	1,605	799	806
June	1,404	581	823	1,479	727	752
July	1,396	592	804	1,338	651	687
August	1,417	631	786	1,224	659	565
September	1,472	648	824	1,212	652	560
October	1,587	721	866	1,186	639	547
November	1,544	728	816	1,158	629	529
December	1,473	703	770	1,203	632	571

TABLE III—*Continued*

Month	1924 Total	1924 For Correspondent	1924 For Own Account	1925 Total	1925 For Correspondent	1925 For Own Account
January	1,350	687	663	2,021	935	1,086
February	1,389	746	643	2 086	1,039	1 047
March	1 417	721	696	2,118	1,113	1 005
April	1,414	734	680	2,071	1 073	998
May	1 390	724	666	2 155	1 145	1,010
June	1,447	651	796	2 238	1 200	1 038
July	1 543	626	917	2 287	1,225	1 062
August	1 648	633	1,015	2 304	1 311	993
September	1 689	675	1,014	2,369	1 382	987
October	1,685	722	963	2 550	1 544	1 006
November	1,706	713	993	2,717	1,653	1 064
December	1,863	789	1,074	2 800	1 648	1,152

Source: *Annual Report of the Federal Reserve Board*, 1927

TABLE IV

BROKERS' LOANS

1926–1935

LOANS TO BROKERS AND DEALERS (ON CALL AND ON TIME) SECURED BY STOCKS AND BONDS MADE BY REPORTING MEMBER BANKS IN NEW YORK CITY

In Millions of Dollars

Month	1926					1927				
	All Brokers' Loans by New York City Banks					All Brokers' Loans by New York City Banks				
			For Account of Banks					For Account of Banks		
	Total	For Account of Others	Total	For Account of Out-of-Town Banks	For Own Account	Total	For Account of Others	Total	For Account of Out-of-Town Banks	For Own Account
January	3 126	585	2 540	1 281	1 259	2 778	741	2 037	1 104	933
February	3 119	608	2 511	1 329	1 182	2 733	765	1 968	1 127	841
March	2 800	576	2 224	1 173	1 051	2 816	824	1 992	1 091	901
April	2 467	528	1 940	1 035	905	2 866	806	2 060	1 131	929
May	2 452	541	1 911	998	913	3 033	806	2 227	1 291	936
June	2,517	600	1 917	944	973	3 115	858	2 257	1 180	1 077
July	2 607	646	1 960	1 000	960	3 096	877	2 220	1 188	1 032
August	2 720	699	2 021	1 073	948	3 181	908	2 273	1 225	1 048
September	2 783	682	2 102	1 128	974	3 261	916	2 346	1 285	1 061
October	2 698	726	1 972	1 106	866	3 392	962	2 429	1 326	1 103
November	2 615	748	1 867	1 048	819	3 441	990	2 451	1 276	1 175
December	2 698	766	1 932	1 045	887	3 621	995	2 626	1 354	1 272

TABLE IV—*Continued*

Month	1928					1929				
	All Brokers' Loans by New York City Banks					All Brokers' Loans by New York City Banks				
	Total	For Account of Others	For Account of Banks			Total	For Account of Others	For Account of Banks		
			Total	For Account of Out-of-Town Banks	For Own Account			Total	For Account of Out-of-Town Banks	For Own Account
January	3,802	990	2,812	1,470	1,342	5,458	2,484	2,974	1,801	1 173
February	3,784	1,117	2,667	1,500	1,167	5,556	2,690	2,866	1,817	1 042
March	3,761	1,247	2,514	1,450	1,064	5,679	2,879	2,800	1,729	1,071
April	4,062	1,253	2,809	1,616	1,193	5,477	2,893	2,583	1,649	934
May	4,414	1,514	2,900	1,628	1,272	5,491	2,965	2,526	1,665	861
June	4,360	1,744	2,616	1,568	1,048	5,383	2,940	2,443	1,548	895
July	4,232	1,760	2,472	1,543	929	5,841	2,992	2,849	1,651	1,198
August	4,238	1,881	2 357	1,522	835	6,069	3,290	2,779	1,786	993
September	4,417	1,923	2,494	1,607	887	6,540	3,642	2,898	1,850	1 048
October	4,701	2,048	2,653	1,720	933	6,498	3,602	2,896	1,659	1,237
November	5,102	2,248	2,854	1,749	1,105	4,023	2,154	1,869	779	1,090
December	5 193	2,319	2,874	1,760	1,114	3,361	1,760	1,601	713	888

TABLE IV—*Continued*

	1930					1931				
	All Brokers Loans by New York City Banks					All Brokers Loans by New York City Banks				
			For Account of Banks					For Account of Banks		
Month	Total	For Account of Others	Total	For Account of Out-of-Town Banks	For Own Account	Total	For Account of Others	Total	For Account of Out-of-Town Banks	For Own Account
January	3,351	1,644	1,706	862	844	1,798	337	1,461	326	1,135
February	3,456	1,546	1,513	971	542	1,759	283	1,476	290	1,186
March	3,741	1,430	2,310	1,100	1,210	1,815	259	1,556	264	1,335
April	4,116	1,376	2,740	1,183	1,557	1,824	231	1,593	271	1,322
May	4,030	1,302	2,727	1,062	1,665	1,644	174	1,470	191	1,276
June	3,825	1,078	2,748	917	1,831	1,464	173	1,291	181	1,110
July	3,224	846	2,378	747	1,631	1,434	168	1,266	204	1,062
August	3,150	798	2,331	682	1,656	1,342	165	1,177	226	951
September	3,174	748	2,426	750	1,676	1,268	161	1,117	174	943
October	2,766	557	2,212	537	1,675	921	157	764	90	674
November	2,246	468	1,792	435	1,357	802	90*	712	124	588
December	2,013	407	1,605	336	1,266	655	13	642	88	554

*November 16, 1931—New clearing house rule.

TABLE IV—*Continued*

Month	1932					1933				
	All Brokers' Loans by New York City Banks					All Brokers' Loans by New York City Banks				
	Total	For Account of Others	For Account of Banks			Total	For Account of Others	For Account of Banks		
			Total	For Account of Out-of-Town Banks	For Own Account			Total	For Account of Out-of-Town Banks	For Own Account
January -	544	6	538	65	473	380	4	376	11	365
February	495	6	489	72	417	433	7	426	10	416
March	531	5	526	94	432	398	7	391	18	373
April	500	7	493	70	423	399	4	395	21	374
May	436	7	428	44	385	578	6	573	17	555
June	377	6	371	29	342	755	7	748	36	712
July -	335	8	327	18	309	919	8	911	105	806
August -	344	8	336	17	319	877	8	869	122	747
September	409	5	404	19	385	847	8	839	98	741
October	411	6	405	16	389	779	5	774	111	663
November	354	6	348	12	336	722	6	716	106	610
December -	393	4	389	12	377	759	6	753	121	632

TABLE IV—*Continued*

Month	1934					1935				
	All Brokers' Loans by New York City Banks					All Brokers' Loans by New York City Banks				
	Total	For Account of Others	For Account of Banks			Total	For Account of Others	For Account of Banks		
			Total	For Account of Out-of-Town Banks	For Own Account			Total	For Account of Out-of-Town Banks	For Own Account
January	802	8	794	137	657	777	2	775	140	635
February	888	8	880	149	731	756	2	754	140	614
March	886	2	884	148	736	839	2	837	141	696
April	975	6	969	156	813	803	3	800	86	714
May	936	8	928	163	765	878	1	877	19	858
June	1,016	6	1,010	165	845	883	—	883	18	865
July	1,042	3	1,039	168	871	908	—	908	15	893
August	827	1	826	153	673	868	—	868	15	853
September	776	1	775	142	633	886	—	886	15	871
October	746	1	745	133	612	848	—	848	12	836
November	713	1	712	139	573	870	—	870	11	859
December	784	1	783	144	639	870	—	870	14	856

Source *Annual Reports of the Federal Reserve Board and Federal Reserve Bulletins*

TABLE IVa
BROKERS' LOANS

1936–1939

LOANS TO BROKERS AND DEALERS (ON CALL AND ON TIME) SECURED BY STOCKS AND BONDS MADE BY REPORTING MEMBER BANKS IN NEW YORK CITY—FOR OWN ACCOUNT
(in Millions of Dollars)

Month	1936	1937	1938	1939
January	954	1,024	668	694
February	934	1,017	587	944
March	1,023	1,111	609	975
April	1,034	1,085	489	555
May	1,000	1,133*	437	529
June	1,101	1,184	549	523
July	970	1,193	497	497
August	949	1,149	510	493
September	1,011	1,109	543	439
October	984	915	528	—
November	978	715	573	—
December	1,053	720	988	—

* Loan classification revised May 19 but figures are still sufficiently comparable

Source: *Annual Reports of the Federal Reserve Board* and *Federal Reserve Bulletins*

TABLE V

COMPARISON OF BROKERS' LOANS WITH ALL LOANS BY MEMBER BANKS AND ALL LOANS AND INVESTMENTS BY MEMBER BANKS ON CALL DATES

1928–1932

(In Millions of Dollars)

Call Date	Loans to brokers outside of New York City	Loans to brokers in New York City	All brokers loans	All loans by member banks	Percentage of brokers loans to all loans	All loans and investments by member banks	Percentage of brokers loans to all loans and investments
1928—Oct 3	850	1 899	2 749	24 325	11 30	34 929	7 87
Dec 31	975	2 556	3 531	25 155	14 04	35 684	9 90
1929—Mar 27	1 014	1 879	2 893	24 945	11 60	35 393	8 17
June 29	921	2 025	2 948	25 658	11 49	35 711	8 25
Oct 4	939	1 885	2 824	26 186	10 79	35 914	7 86
Dec 31	803	1 660	2 463	26 150	9 42	35 934	6 85
1930—Mar 27	706	2 344	3 050	25 119	12 14	35 058	8 70
June 30	819	2 365	3 184	25 214	12 63	35 659	8 93
Sept 24	774	2 472	3 246	24 739	13 12	35 472	9 15
Dec 31	734	1 439	2 173	23 870	9 10	34 860	6 23
1931—Mar 25	575	1 630	2 205	22 840	9 65	34 729	6 35
June 30	515	1 217	1 732	21 916	7 94	33 923	5 11
Sept 29	514	929	1 443	20 874	6 94	33 073	4 36
Dec 31	391	575	966	19 261	5 02	30 575	3 16
1932—June 30	283	278	561	16 587	3 39	28 001	2 00
Sept 30	258	414	672	15 924	4 22	28 045	2 40
Dec 31	241	357	598	15 204	3 93	27 469	2 18

TABLE V—*continued*

Call Date	Loans to brokers outside of New York City	Loans to brokers in New York City	All brokers loans	All loans by member banks	Percentage of brokers' loans to all loans	All loans and investments by member banks	Percentage of brokers' loans to all loans and investments
1933—June 30	186	788	963	12 858	7 41	24 780	3 84
Oct 25	178	748	926	13 059	7 09	24 953	3 71
Dec 30	166	480	846	12 833	6 03	25 220	2 58
1934—Mar 5	164	855	1 010	12 706	8 02	26 048	3 84
June 30	208	1.082	1.290	12 522	10 30	27 175	4 75
Oct 17	167	802	989	12 283	7 88	27 559	3 52
Dec 31	187	843	1.030	12 028	8 56	28 150	3 66
1935—Mar 4	184	875	1.059	11 952	8 86	28 271	3 75
June 29	132	975	1.167	11 928	9 78	28 785	4 05
Nov 1	179	841	1.020	11 841	8 61	29 301	3 48
Dec 31	196	1.047	1.243	12 178	10 21	29 985	4 16
1936—Mar 4	211	1.089	1.300	12 099	10 74	30 288	4 29
June 30	266	1.079	1.345	12 542	10 72	32 259	4 17
Dec 31	266	1 144	1.410	13 380	10 54	33 000	4 27
1937—Mar 31	258	1.159	1.417	13 688	10 34	32 525	4 38
June 30	258	1.278	1 538	14 285	10 75	32 739	4 69
Dec 31	212	738	950	13 969	6 81	31 752	2 99
1938—Mar 7	203	675	878	13 547	6 48	31 521	2 79
June 30	178	523	701	12 938	5 42	30 721	2 28
Sept 28	181	531	712	12,937	5 50	31 627	2 25
Dec 31	no report	no report	973	13 208	7 09	32 070	2 92
1939—Mar 29	no report	no report	838	13 047	6 42	32 095	2 61
June 30	no report	no report	731	13 141	5 59	32 003	2 24

Sources *Annual Reports of the Federal Reserve Board* and *Federal Reserve Bulletins*

TABLE VI

AVERAGE RATE ON STOCK EXCHANGE NEW CALL LOANS

1922–1930

Per Cent per Annum

Month	1922	1923	1924	1925	1926	1927	1928	1929	1930
January - -	4·50	4·30	4·31	3·21	4·46	4·27	4·15	6·94	4·31
February - -	4·96	4·94	4·37	3·99	4·93	4·09	4·33	7·47	4·29
March - -	4·29	5·24	4·12	4·01	4·96	4·13	4·48	9·80	3·56
April - -	4·02	4·98	4·22	3·94	3·97	4·21	5·08	9·46	3·79
May - - -	3·94	4·96	3·33	3·78	3·83	4·27	5·99	8·79	3·05
June - - -	3·73	5·06	2·19	4·12	4·12	4·29	6·32	7·83	2·60
July - - -	3·90	5·08	2·09	4·09	4·28	3·95	6·06	9·41	2·19
August - -	3·83	4·93	2·00	4·23	4·58	3·66	6·91	8·15	2·22
September	4·92	4·92	2·10	4·72	5·05	3·84	7·40	8·62	2·17
October - -	4·83	4·93	2·35	4·79	4·70	3·88	7·12	6·10	2·00
November - -	4·94	4·77	2·61	4·74	4·60	3·60	6·98	5·40	2·00
December -	4·62	4·88	3·63	5·38	5·18	4·43	8·86	4·88	2·27

TABLE VI—*Continued*

Month	1931	1932	1933	1934	1935	1936	1937	1938	1939
January - -	1·50	2·61	1·00	1·00	1·00	·75	1·00	1·00	1·00
February - -	1·50	2·30	1·00	1·50	1·00	·75	1·00	1·00	1·00
March - -	1·55	2·50	3·27	1·00	1·00	·75	1·00	1·00	1·00
April - -	1·57	2·50	1·25	1·00	·83	·75	1·00	1·00	1·00
May - - -	1·45	2·50	1·00	1·00	·25	·53	1·00	1·00	1·00
June - - -	1·50	2·50	1·00	1·00	·25	1·05	1·00	1·00	1·00
July - - -	1·50	2·08	1·00	1·00	·25	1·00	1·00	1·00	1·00
August - -	1·50	2·50	·98	1·00	·25	1·00	1·00	1·00	1·00
September -	1·50	2·00	·75	1·00	·25	1·00	1·00	1·00	
October - -	2·10	1·35	·75	1·00	·29	1·00	1·00	1·00	
November - -	2·50	1·00	·75	1·00	·75	1·00	1·00	1·00	
December - -	2·73	1·00	·54	1·00	·75	1·00	1·00	1·00	

Sources: *Annual Reports of the Federal Reserve Board* and *Federal Reserve Bulletins*

NOTE.—The statistics for 1927 to 1938 are for call loan renewals, not new call loans. However, the difference between the two rates is usually negligible.

TABLE VII

CAPITAL ISSUES
1922–1938
In Millions of Dollars

Year	All Capital Issues							
			New					
						Corporate		
	Total	Refunding	Total	Foreign	Domestic Government (Federal State and Municipal)	Total	Bonds and Notes	Stocks
1922	5 297	906	4 391	764	1 415	2 212	1,642	570
1923	5 119	682	4 437	421	1 380	2 635	1,976	659
1924	6 316	759	5 557	969	1 559	3 029	2 200	826
1925	7,125	924	6 201	1 078	1 521	3 605	2,452	1 153
1926	7 358	1,044	6 314	1 125	1 435	3 754	2 667	1,087
1927	9 774	2 218	7 556	1 337	1 562	4 657	3 183	1,474
1928	9,898	1,858	8 040	1 251	1 443	5 346	2 385	2 961
1929	11,513	1,422	10 091	671	1 418	8 002	2,078	5 924
1930	7,619	709	6 909	905	1 521	4 483	2 980	1,503
1931	4,038	949	3 089	229	1 310	1 551	1,239	311
1932	1 751	557	1 194	29	839	325	305	20
1933	1,063	343	720	12	547	161	40	120
1934	2 160	774	1 386	0	1 208	178	144	35
1935	4 699	3 242	1 457	48	1 005	404	324	80
1936	6 214	4 242	1 972	23	757	1 192	839	352
1937	3 878	1 798	2 080	4	884	1 192	789	403
1937	3,937	1,799	2 138	44	869	1,225	817	408
1938	4 461	2,102	2 359	35	1,452	872	807	65

Sources *Annual Reports of the Federal Reserve Board* and *Federal Reserve Bulletins*

TABLE VIII

UNITED STATES DOMESTIC NEW CORPORATE SECURITIES (NON-FINANCIAL AND FINANCIAL)

1922–1939

In Thousands of Dollars

Month	1922			1923		
	Total Corporate Securities	Bonds and Notes	Stocks	Total Corporate Securities	Bonds and Notes	Stocks
January	195,733	163,800	31,933	444,123	348,078	96,045
February	117,717	87,099	30,618	230,084	152,484	77,600
March	232,209	202,426	29,783	242,938	204,455	38,483
April	271,976	244,184	27,792	241,662	132,905	108,757
May	301,783	228,250	73,533	166,580	136,148	30,432
June	268,725	211,380	57,345	214,601	188,399	26,202
July	121,614	104,254	17,360	130,590	108,875	21,715
August	98,566	58,214	40,352	111,657	97,100	14,557
September	286,180	131,492	154,688	137,107	108,228	28,879
October	163,183	143,382	19,801	211,685	179,284	32,401
November	98,070	78,830	19,240	308,915	217,312	92,403
December	179,969	108,909	71,060	261,603	168,895	92,708

TABLE VIII—*Continued*

Month	1924			1925		
	Total Corporate Securities	Bonds and Notes	Stocks	Total Corporate Securities	Bonds and Notes	Stocks
January	276 906	212 820	64 086	413 404	345 376	68,030
February	228 304	169 627	58 676	450 171	353 665	96 506
March	254,584	189 904	64,680	282 356	202 077	80,279
April	249 602	205 334	44,268	411,441	272 788	138 653
May	447 262	199 043	248 209	260,925	192 424	68 501
June	252 854	223 970	28 884	321 531	233 149	88,382
July	232 694	165 118	67 576	323 377	196 670	126 708
August	194 957	160 695	34 262	211 750	157 130	54 620
September	273 367	234 675	38 692	304,309	232,675	71 634
October	361 898	283 641	78 257	300 994	185 234	115 760
November	235 256	180 390	54 866	365,565	220 927	144 638
December	313 994	227 256	86 738	474 602	316,698	157,506

TABLE VIII—*Continued*

Month	Total Corporate Securities		Bonds and Notes		Stocks	
	1926					
	Non financial	Financial	Non financial	Financial	Non-financial	Financial
January	510 843	35 000	375 877	5,000	134,966	30,000
February -	379 343	1,750	256 484	1.500	122,856	250
March -	441 032	2 200	263 241	—	177 791	2 200
April -	325 516	6 000	294 483	6,000	31,033	—
May - -	441 631	—	245 208	—	196,423	—
June -	372 939	6,100	324 262	1,000	48 677	5,100
July - -	414 385	250	320 242	—	94 143	250
August -	176 155	—	133 091	—	43 104	—
September	283 231	—	236 847	—	46 384	—
October -	275 706	1 000	229 305	1.000	46 401	—
November -	321 894	8 800	213 018	1.000	108 876	7 800
December —	343 228	10 000	268,799	—	74 429	10,000

TABLE VIII—*Continued*

Month	1927					
	Total Corporate Securities		Bonds and Notes		Stocks	
	Non-financial	Financial	Non financial	Financial	Non-financial	Financial
January	489 883	20 500	400 340	13 000	89 543	7 500
February	518 737	22 446	272 293	9 500	246 444	12 946
March	392 713	538	286 673	—	105 741	538
April	379 652	10 263	302 396	5 000	77 569	5 263
May	424 657	27 628	310 160	10 000	114 507	17 627
June	519 765	18 500	412 040	15 000	107 765	3 500
July	338 278	3 380	266 843	2 500	71 435	880
August	265 906	11 626	196 430	2 000	66 476	9 926
September	367 860	10 485	265 929	—	101 931	10 485
October	561 940	12 940	465 788	6 500	96 154	6 440
November	388 516	15 375	279 800	7 000	108 716	8 375
December	567 864	20 728	337 646	15 000	230 218	5 728

TABLE VIII—*Continued*

1929

Month	Total Corporate Securities		Bonds and Notes		Stocks	
	Non financial	Financial	Non financial	Financial	Non-financial	Financial
January -	372,139	53,868	279,627	19,650	92,512	34,218
February -	408,599	16,322	290,919	7,000	117,680	9,322
March -	363,163	41,839	219,596	17,500	143,567	24,339
April -	500,803	32,429	292,665	13,139	208,138	19,290
May -	499,016	108,739	310,498	15,500	188,518	45,179
June -	581,569	32,339	298,447	11,000	283,122	21,339
July -	272,153	12,650	103,439	1,200	168,714	11,450
August -	179,686	3,030	119,603	2,000	60,083	1,030
September	382,459	8,699	232,480	—	149,979	8,699
October -	515,278	89,196	235,942	—	279,336	89,196
November	596,051	112,494	301,180	—	294,871	112,494
December -	562,983	272,090	265,829	10,000	297,154	262,090

TABLE VIII—*Continued*

1959

Month	Total Corporate Securities		Bonds and Notes		Stocks	
	Non financial	Financial	Non financial	Financial	Non financial	Financial
January -	551 313	277 014	261 109	15,000	290 204	262 014
February -	614 500	238 784	201 595	21 500	412 905	217,284
March -	702 454	179,999	274 294	47,000	428 160	132,999
April -	504 599	82 058	185 071	1 500	319 528	80,558
May - -	844 840	78,206	340 256	—	504,584	78,206
June - -	553 001	71,906	262 487	8 000	290 514	63 906
July - -	592 965	220,588	165,613	20,250	427 352	200 338
August -	309 450	453 727	100 597	1 000	208 853	452 727
September	672 047	529,237	170 194	2 000	501 853	527,237
October -	645 528	78,638	280 164	1 000	365 364	77 638
November -	198 358	3 435	84 598	—	113,760	3 435
December -	253,252	8,639	134,522	—	118 730	8 639

TABLE VIII—*Continued*

Month	Total Corporate Securities		Bonds and Notes		Stocks	
	1930					
	Non-financial	Financial	Non-financial	Financial	Non-financial	Financial
January	566 433	63 250	442 270	60 000	123 563	3 250
February	452 184	16 390	312 302	1 000	139 882	15 390
March	629 275	1 595	507 864	—	121 411	1 595
April	566 692	61,752	352 064	15,000	214 628	46,752
May	861,632	2,110	434 902	—	422 030	2 110
June	441 223	4 140	292 721	250	148 503	3 890
July	392 241	10 000	331 851	—	60 430	10 000
August	121 515	—	65 192	—	56 323	—
September	214 570	70,000	182 795	40 000	31 775	30 000
October	147 648	3 500	126 026	3 500	21 622	—
November	137 622	—	119 184	—	18 438	—
December	180 872	—	107 363	—	73 509	—

TABLE VIII—*Continued*

Month	1931					
	Total Corporate Securities		Bonds and Notes		Stocks	
	Non-financial	Financial	Non financial	Financial	Non-financial	Financial
January	399,848	—	354 546	—	45,302	—
February	72 201	2 050	47 485	—	24,716	2,050
March	265 775	250	256 555	—	9,220	250
April	267 471	—	165 763	—	101,708	—
May	168 360	—	138 885	—	29,475	—
June	131,343	—	125,459	—	5,884	—
July	114,226	844	112 950	—	1,276	844
August	46 197	—	34 035	—	12,162	—
September	156 381	—	144 316	—	12,065	—
October	16 450	941	13,785	—	2 665	941
November	50 123	—	26 268	—	23 855	—
December	64 984	—	28,116	—	36 868	—

TABLE VIII—*Continued*

Month	1932					
	Total Corporate Securities		Bonds and Notes		Stocks	
	Non-financial	Financial	Non-financial	Financial	Non-financial	Financial
January	46,664	—	42,245	—	4,419	—
February	38,863	—	35,050	—	3,813	—
March	48,247	—	47,406	—	841	—
April	18,070	—	18,070	—	—	—
May	7,231	—	7,231	—	—	—
June	4,110	—	4,110	—	—	—
July	62,842	—	61,842	—	1,000	—
August	26,281	—	24,481	—	1,800	—
September	6,650	—	6,300	—	350	—
October	48,474	—	46,683	—	1,791	—
November	6,433	1,200	4,720	—	1,713	1,200
December	10,399	—	6,133	—	4,266	—

TABLE VIII—*Continued*

Month	Total Corporate Securities		Bonds and Notes		Stocks	
	1933					
	Non financial	Financial	Non financial	Financial	Non financial	Financial
January	22,157	—	18,907	—	3,250	—
February	1,314	—	1,314	—	—	—
March	3,170	—	—	—	3,170	—
April	17,335	—	16,400	—	935	—
May	3 584	—	500	—	3 084	—
June	12,082	—	3 100	—	8,982	—
July	51,805	1,089	—	—	51,805	1 089
August	14,050	—	—	—	14 050	—
September	8,911	—	—	—	8,911	—
October	3,169	—	—	—	3,169	—
November	6,511	—	75	—	6 436	—
December	15,801	—	—	—	15,801	—

TABLE VIII—*Continued*

Month	Total Corporate Securities		Bonds and Notes		Stocks	
	1934					
	Non-financial	Financial	Non-financial	Financial	Non-financial	Financial
January	5,983	—	—	—	5 983	—
February	13,058	—	12,000	—	1,058	—
March	13,770	—	9,162	—	4 608	—
April	28,241	—	23,346	—	4 895	—
May -	28,823	—	25,582	—	3 241	—
June	3,420	—	—	—	3,420	—
July -	19,969	310	18,700	—	1,269	310
August	8,019	—	8,019	—	—	—
September	7,187	—	4,887	—	2 300	—
October	390	—	—	—	390	—
November	8,227	—	8,227	—	—	—
December -	16,361	18,500	15,034	18 500	1,327	—

TABLE VIII—*Continued*

Month	Total Corporate Securities		Bonds and Notes		Stocks	
1935						
	Non-financial	Financial	Non financial	Financial	Non financial	Financial
January	5,267	—	3,263	—	2 004	—
February	6,500	—	6,500	—	—	—
March	7 045	—	7,045	—	—	—
April	21,988	—	16,988	—	5 000	—
May	45,193	—	38,993	—	6,200	—
June	13,676	—	13 676	—	—	—
July	55,090	—	28,857	—	26,233	—
August	29,795	—	29,395	—	400	—
September	45,087	—	42 260	—	2,827	—
October	73,003	—	70,084	—	2,919	—
November	33,289	—	30,359	—	2,930	—
December	64 738	2,000	45,919	2,000	18 819	—

TABLE VIII—*Continued*

Month	Total Corporate Securities		Bonds and Notes		Stocks	
	1928					
	Non-financial	Financial	Non financial	Financial	Non-financial	Financial
January	72,936	—	69,186	—	3,750	—
February	13,472	—	3,618	—	9,854	
March	58,816	—	46,211	—	12,605	—
April	127,879	—	101,662	—	26,217	—
May	32,808	4,800	13,398	—	19,410	4,800
June	151,874	—	123,016	—	28,858	—
July	62,684	7,125	39,236	—	23,448	7,125
August	170,799	—	145,823	—	24,976	—
September	74,590	—	48,392	—	26,198	—
October	103,885	—	53,921	—	49,964	—
November	109,077	—	96,957	—	12,120	—
December	217,206	1,000	99,067	1,000	118,139	—

TABLE VIII—*Continued*

1937

Month	Total Corporate Securities		Bonds and Notes		Stocks	
	Non financial	Financial	Non financial	Financial	Non financial	Financial
January	96,346	250	65,590	250	30,756	—
February	154,597	—	98,590	—	56,007	—
March	139,243	—	98,997	—	40,246	—
April	79,402	—	38,433	—	40,969	—
May	83,011	—	52,226	—	30,785	—
June	276,128	—	184,247	—	91,881	—
July	81,745	—	40,190	—	41,555	—
August	50,873	—	34,292	—	16,581	—
September	113,746	—	87,422	—	26,324	—
October	69,887	99	49,287	—	20,600	99
November	36,089	—	31,320	—	4,769	—
December	50,430	—	28,571	—	21,859	—

TABLE VIII—*Continued*

1938

Month	Total Corporate Securities		Bonds and Notes		Stocks	
	Non-financial	Financial	Non-financial	Financial	Non financial	Financial
January	46,365	—	40,107	—	6,258	—
February	40,852	—	40,777	—	75	—
March	23,595	400	22,224	400	1,371	—
April	11,683	—	10,940	—	743	—
May	37,574	—	21,666	—	15,908	—
June	201,716	600	197,934	600	3,782	—
July	130,176	100	128,426	—	1,750	100
August	124,014	3,000	120,304	3,000	3,710	—
September	84,437	—	83,099	—	1,338	—
October	63,922	—	61,784	—	2,138	—
November	43,071	—	37,409		5,662	—
December	47,161	—	31,861	—	15,300	—

TABLE VIII—*Continued*

1929

Month	Total Corporate Securities		Bonds and Notes		Stocks	
	Non-financial	Financial	Non financial	Financial	Non financial	Financial
January	4 927	500	4,000	500	927	—
February	23,571	—	16,722	—	6,849	—
March	52,965	—	42,809	—	10,156	—
April	78,560	500	48,033	500	30 527	—
May -	20 990	—	17,928	—	3,062	—
June -	30,241	—	21,578	—	8,663	—
July -	49 464	—	40,290	—	9,174	—
August	25,395	—	22,364	—	3,031	—
September	16 019	—	14,320	—	1,699	—

Source *Commercial and Financial Chronicle*

NOTES —The columns " Non financial " were obtained by subtracting the issues of investment trusts, holding companies etc , from their totals

The column " Bonds and Notes " includes both long and short-term issues

For the years 1922-1925 no separate figures were published for financial issues

TABLE IX

THREE MONTHS MOVING AVERAGE OF NON-FINANCIAL STOCK ISSUES AND THE STANDARD STATISTICS STOCK PRICE INDEX

1922–1924

Stock Price Index 1926=100
Stock Issues in Thousands of Dollars

Month	1922		1923		1924	
	Non-financial Stock Issues	Stock Price Index	Non financial Stock Issues	Stock Price Index	Non financial Stock Issues	Stock Price Index
January	—	56·6	61 568	69·0	71 423	70·1
February	30 778	67·6	70,709	70·7	53 147	70·0
March -	29 396	69·6	74 947	71·8	52 641	68·7
April -	43 703	62·7	59 224	70·2	115 819	68·1
May - -	52 810	64·6	54 797	67·8	107 220	67·9
June -	46 413	64·2	25 743	65·4	104 990	69·3
July -	38 352	65·3	20 491	63·6	33 684	72·6
August	70 800	68·0	21 717	64·2	36 963	75·1
September	71 814	69·7	25 279	64·5	50 414	75·1
October	64 676	71·0	61 227	64·1	57 272	74·4
November	36 700	68·3	72 504	65·7	73,286	78·7
December -	62 115	68·2	63,066	67·6	66 477	82·4

TABLE IX—*Continued*

Stock Price Index 1926=100

Stock Issues in Thousands of Dollars

Month	1925		1926		1927	
	Non financial Stock Issues	Stock Price Index	Non-financial Stock Issues	Stock Price Index	Non-financial Stock Issues	Stock Price Index
January	86,790	87 2	138,577	100·5	139 905	108 4
February	91 638	85·6	145 205	100·6	147,243	109 5
March	105,179	83 3	110,591	93 6	143,247	110 2
April	95 911	82·0	135,082	91·2	99 388	112·9
May	98 512	85·2	92,044	91 8	109,039	116 7
June	94 530	86·9	113,081	96 2	97,996	119·3
July	89 903	88 9	91,976	100 3	82,555	120 0
August	84,154	90·7	91,216	104·2	80,947	127 3
September	80,671	92·5	45,299	105 9	85,187	134 5
October	110,577	96 4	97 220	103 4	102,297	132 4
November	139 435	98 2	78 589	104 7	145,029	135 4
December	145,837	101·2	90 945	107 1	143 915	139 7

TABLE IX—*Continued*

Stock Price Index: 1926=100
Stock Issues in Thousands of Dollars

Month	1928		1929		1930	
	Non financial Stock Issues	Stock Price Index	Non financial Stock Issues	Stock Price Index	Non-financial Stock Issues	Stock Price Index
January -	146,909	139·2	369,721	197·4	127,392	172·3
February	119,020	137·5	377,059	198·4	128,285	183·2
March	198,082	144·9	385,495	202·0	158,640	190·1
April	180,074	164·0	418,424	200·7	252,690	202·2
May -	226,593	158·9	370,542	203·8	291,720	190·1
June -	213,451	161·0	407,483	207·6	209,654	170·9
July -	170,640	162·2	308,910	220·2	88,419	187·3
August	128,259	167·1	379,386	239·0	49,609	165·1
September	163,133	169·1	358,693	248·6	36,273	165·0
October -	241,395	171·6	328,659	222·3	23,945	142·3
November -	323,787	183·1	200,351	183·4	97,856	132·0
December -	327,410	183·9	120,391	170·0	45,750	124·2

TABLE IX.—*Continued*

Stock Price Index : 1926=100
Stock Issues in Thousands of Dollars

Month	1931		1932		1933	
	Non-financial Stock Issues	Stock Price Index	Non-financial Stock Issues	Stock Price Index	Non-financial Stock Issues	Stock Price Index
January	47,842	126·5	16,700	65·9	2,505	56·3
February	26,413	136·6	3,024	65·3	2,140	49·6
March	46,214	139·2	1,551	65·6	1,868	49·4
April	46,801	126·9	290	49·8	2,396	54·7
May	45,665	113·8	—	48·8	4,334	70·6
June	12,212	110·2	333	37·9	21,290	82·6
July	64,407	113·8	633	39·8	24,948	86·2
August	3,501	110·4	1,050	59·8	24,922	84·3
September	8,964	93·9	1,314	65·6	6,690	84·0
October	12,862	81·4	1,285	58·5	6,152	75·8
November	21,796	82·5	2,590	56·0	6,382	77·6
December	22,381	87·0	3,076	54·2	9,340	73·2

TABLE IX—*Continued*

Stock Price Index : 1926=100
Stock Issues in Thousands of Dollars

Month	1934		1935		1936	
	Non financial Stock Issues	Stock Price Index	Non financial Stock Issues	Stock Price Index	Non financial Stock Issues	Stock Price Index
January -	7,547	83·7	1,110	73·8	10,808	109·3
February -	3,683	89·9	668	71·3	8,736	115·6
March -	3,454	85·3	1,667	68·6	16,225	119·0
April -	4,181	86·7	3,735	71·8	19,411	118·2
May -	3,785	78·0	3,733	77·4	24,828	111·9
June -	4,643	78·9	11,478	80·3	23,905	118·7
July -	3,563	75·2	3,544	84·8	25,760	123·6
August -	1,180	72·2	10,487	90·5	24,872	126·1
September	667	72·8	2,049	92·2	33,713	127·5
October -	897	71·1	2,892	94·6	29,427	134·1
November -	872	73·1	8,223	103·8	60,074	137·8
December -	1,110	73·3	8,500	103·6	63,718	135·5

TABLE IX—*Continued*

Stock Price Index : 1926 = 100
Stock Issues in Thousands of Dollars

Month	1937		1938		1939	
	Non-financial Stock Issues	Stock Price Index	Non-financial Stock Issues	Stock Price Index	Non-financial Stock Issues	Stock Price Index
January	68,301	139·7	9,397	89·8	7,692	99·3
February	42,336	143·8	2,568	87·6	5,977	98·[illegible]
March	45,741	143·7	730	81·9	15,844	98·3
April	37,333	135·1	6,007	76·5	14,582	86·0
May	51,212	129·1	8,810	78·2	14,084	89·2
June	51,407	124·2	9,146	81·1	6,986	90·8
July	46,672	131·6	5,061	87·2	6,356	93·0
August	28,153	132·6	2,433	97·7	4,635	91·6
September	21,168	114·1	2,562	93·7	—	101·4
October	17,231	97·6	3,213	103·7	—	102·4
November	15,743	88·6	7,700	103·8	—	—
December	10,962	87·5	7,256	100·7	—	—

Sources For stock issues see preceding table
For stock price index Standard Statistics Company, STANDARD TRADE AND SECURITIES

NOTE ON THE STANDARD STOCK INDEX — In relatives, 1926 = 100 Weighted by the number of shares of each stock outstanding Corrected for the value of rights, stock dividends changes in par value and consolidations Since 1926 the indexes are an average of Standard's Daily Stock Price Index Prior to 1926 averages of the monthly high-low prices were used

TABLE X

CAPITAL MOVEMENTS

1922–1938

UNITED STATES BALANCE OF INTERNATIONAL PAYMENTS

In Millions of Dollars

Year	Inflow of Long-term Capital	Outflow of Long-term Capital	Net Movement of Long-term Capital	Net Movement of Short-term Capital
1922	294	1 011	−717	+375
1923	436	434	+ 1	+ 3
1924	364	966	−602	+219
1925	551	1 038	−487	− 61
1926	1,320	1,929	−609	+350
1927	1,609	2 332	−723	+900
1928	2,591	3 253	−662	−188
1929	2,329	2 494	−137	− 89
1930	2,161	2 428	−267	−489
1931	1,520	1,301	+219	−709
1932	862	645	+217	−409
1933	1,509	1 460	+ 49	−389
1934	1,110	908	+202	+184
1935	1,991	1,529	+462	+370
1936	3,490	2 717	+773	+404
1937	3,183	2 861	+322	+354
1938	1,724	1 701	+ 23	+295

Sources: United States Department of Commerce. *The Balance of International Payments of the United States*. *Federal Reserve Bulletins*.

TABLE XI

CASH BALANCES OF BROKERS COMPARED WITH MARGIN LOANS TO CUSTOMERS, BROKERS' BORROWINGS AND CUSTOMERS' BROKERAGE DEPOSITS
1935–1939

Member Firms of New York Stock Exchange—Ledger Balances in Millions of Dollars

End of Month	Cash on hand and in banks (cash balances)	Customers' debit balances	Money borrowed	Customers' credit balances			Percentage of cash balances to loans to customers	Percentage of cash balances to money borrowed	Percentage of cash balances to customers' deposits
				Total	Free	Other (net)			
1935—Sept.	192	1,008	771	349	257	92	19·56	23·91	52·60
Oct.	187	1,147	806	370	277	93	16·30	23·20	50·54
Nov.	189	1,212	859	386	294	92	15·59	22·00	48·96
Dec.	179	1,258	930	365	286	79	14·23	19·25	49·04
1936—Jan.	193	1,297	922	410	319	91	14·88	20·93	47·07
Feb.	208	1,290	908	426	328	98	16·12	22·91	48·83
Mar.	181	1,351	948	392	303	89	13·40	19·10	46·17
April	268	1,295	1,033	389	301	88	20·69	25·94	68·89
May	229	1,257	970	365	282	83	18·22	23·61	62·74
June	219	1,267	985	362	273	89	17·28	22·23	60·50
July	221	1,295	981	383	287	96	17·07	22·53	57·70
Aug.	213	1,287	967	375	283	92	16·55	22·03	56·80
Sept.	227	1,317	995	388	289	99	17·24	22·81	58·51
Oct.	239	1,333	999	417	319	98	17·93	23·70	57·35
Nov.	260	1,394	899	456	346	110	19·06	29·37	57·03
Dec.	249	1,395	1,048	445	342	103	17·85	23·76	55·96

TABLE XI—*Continued*

End of Month	Cash on hand and in banks (cash balances)	Customers debit balances	Money borrowed	Customers credit balances			Percentage of cash balances to loans to customers	Percentage of cash balances to money borrowed	Percentage of cash balances to customers deposits
				Total	Free	Other (net)			
1937—Jan	243	1,483	1,028	490	372	118	16·39	23·64	49·59
Feb	230	1 482	1 048	482	366	116	15·52	21·95	47·72
Mar	223	1 549	1 172	461	346	115	14·40	19·03	48·37
April	227	1,559	1 216	425	314	111	14·56	18·66	53·41
May	209	1 503	1 188	385	284	101	13·91	17·59	54·28
June	214	1 489	1 217	358	266	92	14·37	17·58	59·78
July	206	1 493	1 213	361	265	96	13·80	16·98	57·06
Aug	202	1 509	1 233	344	252	92	13·39	16·38	58·72
Sept	239	1 363	1 088	352	256	96	17·53	21·97	67·90
Oct	263	1 053	781	379	272	107	24·98	33·67	69·39
Nov	225	1 034	723	365	270	95	21·76	31·12	61·64
Dec	232	985	688	363	278	85	23·55	33·72	63·91
1938—Jan	220	954	641	375	288	87	23·06	34·32	58·67
Feb	207	937	628	360	280	80	22·09	32·96	57·50
Mar	215	831	576	320	239	81	25·87	37·33	67·19
April	203	763	485	336	248	88	26·61	41·86	60·42
May	208	760	482	335	243	92	27·37	43·15	62·08

TABLE XI—*Continued*

End of Month	Cash on hand and in banks (cash balances)	Customers' debit balances	Money borrowed	Customers' credit balances			Percentage of cash balances to loans to customers	Percentage of cash balances to money borrowed	Percentage of cash balances to customers' deposits
				Total	Free	Other (net)			
1938—June	215	774	495	347	258	89	27.78	43.43	61.96
July	209	843	528	366	284	82	24.79	39.58	57.10
Aug	200	864	571	349	272	77	23.15	35.03	57.31
Sept	213	823	559	325	257	68	25.88	38.10	65.54
Oct	196	906	617	343	270	73	21.63	31.77	57.14
Nov	189	939	662	317	252	65	20.13	28.55	59.62
Dec	190	991	754	307	247	60	19.17	25.20	61.89
1939—Jan.	192	971	713	295	235	60	19.77	26.93	65.08
Feb	168	967	709	284	222	62	17.37	23.70	59.15
Mar	174	933	699	284	225	59	18.65	24.89	61.27
Apr	190	831	579	296	236	60	22.86	32.82	64.19
May	183	828	561	299	230	69	22.10	32.62	61.20
June	178	834	570	300	230	70	21.34	31.23	59.33
July	183	839	589	305	238	67	21.81	31.07	60.00

Sources: *Annual Reports of the Federal Reserve Board* and *Federal Reserve Bulletins*

TABLE XII

COMPARISON OF BROKERS CASH BALANCES WITH STOCK PRICES AND BROKERS BORROWINGS
1935–1938

January 1936=100

Year and Month	Index of Brokers Cash Balances	Index of Common Stock Prices	Index of Brokers Borrowings
1935			
September	94	85	82 62
October	97	85	87 42
November	98	93	93 17
December	93	95	100 87
1936			
January	100	100	100 00
February	108	106	98 48
March	94	109	107·92
April	133	109	112·04
May	113	101	106·21
June	112	106	106·83
July	115	109	106 40
August	110	113	104 88
September	118	114	107·92
October	122	119	107·27
November	135	124	106·94
December	129	123	113·67
1937			
January	128	126	111·50
February	119	130	113 67
March	118	130	127·11
April	118	125	131·78
May	108	116	128·85
June	111	114	132 00
July	107	118	131·68
August	105	121	133·73
September	124	108	118·00
October	136	91	84 71
November	117	83	78 42
December	120	81	74·62
1938			
January	114	82	69 52
February	107	81	68·11
March	111	78	63·23
April	105	71	52·60
May	108	74	52 28

TABLE XII—*Continued*

Year and Month	Index of Brokers' Cash Balances	Index of Common Stock Prices	Index of Brokers' Borrowings	Year and Month	Index of Brokers' Cash Balances	Index of Common Stock Prices	Index of Brokers' Borrowings
1938				1939			
June	111	73	93.09	January	93	92	77.33
July	108	88	97.27	February	87	80	78.90
August	104	90	91.93	March	90	92	75.81
September	110	96	90.63	April	98	82	62.80
October	102	91	96.92	May	95	83	60.85
November	98	90	71.60	June	92	86	91.82
December	98	92	81.78	July	95	86	63.88

Sources —*Annual Reports of the Federal Reserve Board and Federal Reserve Bulletins*

TABLE XIII

OBVIATION OF CHECK PAYMENTS THROUGH STOCK EXCHANGE CLEARING

1925–1938

Year	Per cent	Year	Per cent	Year	Per cent
1925	82.9	1930	79.8	1935	73.9
1926	83.4	1931	82.2	1936	77.0
1927	84.3	1932	91.7	1937	77.8
1928	85.1	1933	77.3	1938	75.0
1929	91.7	1934	88.7		

Source *New York Stock Exchange Bulletins*

TABLE XIV

TOTAL CLEARING HOUSE TRANSACTIONS AND CLEARING HOUSE BALANCES SETTLED BY CHECK

1929–1930

Month	Total Value All Contracts (Millions)	Funds Actually Required (Millions)	Per Cent Check Paid to Total	Per Cent Obviation	Month	Total Value All Contracts (Millions)	Funds Actually Required (Millions)	Per Cent. Check Paid to Total	Per Cent Obviation
1929					1930				
January	—	—	—	—	January	4 971	1 061	21·4	78·6
February	—	—	—	—	February	5 931	1 117	18·6	81·4
March	12 118	1 874	15·5	84·5	March	8 177	1 472	18·0	82·0
April	8 696	1 432	16·5	83·5	April	9 947	1 675	16·8	83·2
May	9 958	1 508	15·1	84·9	May	7 605	1 542	20·3	79·7
June	7 759	1 530	19·7	80·3	June	6 753	1 518	22·5	77·5
July	11 721	2 263	19·4	80·6	July	4 478	1 058	23·6	76·4
August	12 154	2 227	18·3	81·7	August	3 908	926	23·7	76·3
September	13 518	2 490	18·5	81·5	September	4 683	1 078	23·0	77·0
October	14 988	3 260	21·7	78·3	October	5 780	1 168	20·2	79·8
November	6 298	1 568	24·9	75·1	November	3 965	754	19·0	81·0
December	6 486	1 231	19·0	81·0	December	4 282	884	20·8	79·2

TABLE XIV—*Continued*

Month	Total Value All Contracts (Millions)	Funds Actually Required (Millions)	Per Cent Check Paid to Total	Per Cent Obviation	Month	Total Value All Contracts (Millions)	Funds Actually Required (Millions)	Per Cent Check Paid to Total	Per Cent Obviation
1931					1932				
January -	3,148	670	21·3	78·7	January -	2,252	362	16·1	83·9
February	4,242	677	16·0	84·0	February	2,291	348	15·2	84·8
March -	5,215	1,014	19·4	80·6	March -	1,963	330	16·8	83·2
April -	4,963	868	17·5	82·5	April -	1,992	334	16·8	83·2
May -	4,342	712	16·4	83·6	May -	1,618	317	19·6	80·4
June -	4,464	723	16·2	83·8	June -	1,553	317	20·4	79·6
July -	2,874	560	19·5	80·5	July -	1,191	243	20·4	79·6
August -	2,151	405	18·8	81·2	August -	3,383	498	14·6	85·4
September	3,543	600	16·9	83·1	September	2,963	527	17·8	82·2
October -	3,188	561	17·6	82·4	October -	1,718	388	22·6	77·4
November	2,483	384	15·5	84·5	November	1,348	350	25·9	74·1
December	3,044	494	16·2	83·8	December	1,392	318	22·5	77·5

TABLE XIV—*Continued*

Month	Total Value All Contracts (Millions)	Funds Actually Required (Millions)	Per Cent Check Paid to Total	Per Cent Obviation	Month	Total Value All Contracts (Millions)	Funds Actually Required (Millions)	Per Cent Check Paid to Total	Per Cent Obviation
1933					1934				
January -	1,543	431	27·9	72·1	January	2,643	660	25·0	75·0
February	1,546	472	30·6	69·4	February	2,985	710	23·8	76·2
March -	1,344	340	25·3	74·7	March	2,171	712	32·8	67·2
April -	2,041	364	18·8	81·2	April	2,276	777	34·2	65·8
May -	4,032	743	18·4	81·6	May	2,074	688	33·2	66·8
June	6,000	963	17·9	82·1	June	1,654	604	36·5	63·5
July -	5,303	946	17·7	82·3	July	1,726	644	37·3	62·7
August -	2,640	753	28·5	71·5	August	1,547	560	36·2	63·8
September	2,369	641	27·0	73·0	September	1,165	464	38·9	61·1
October -	2,456	702	28·6	71·4	October	1,429	440	30·8	69·2
November	2,164	523	24·3	75·7	November	1,416	360	25·4	74·6
December	1,841	502	27·2	72·8	December	1,811	555	30·6	69·4

TABLE XIV—*Continued*

Month	Total Value All Contracts (Millions)	Funds Actually Required (Millions)	Per Cent Check Paid to Total	Per Cent Obviation	Month	Total Value All Contracts (Millions)	Funds Actually Required (Millions)	Per Cent Check Paid to Total	Per Cent Obviation
1935					1936				
January	2,014	616	30·7	69·3	January	3,384	785	23·2	76·8
February	1,485	460	32·1	67·9	February	3,111	580	18·6	81·4
March	1,970	632	33·8	66·2	March	3,300	763	23·1	76·9
April	1,934	634	32·4	67·6	April	2,675	738	27·6	72·4
May	2,076	536	25·8	74·2	May	1,887	521	27·6	72·4
June	1,787	506	28·3	71·7	June	2,055	643	31·3	68·7
July	2,085	599	28·7	71·3	July	2,356	519	22·0	78·0
August	2,306	560	24·3	75·7	August	1,906	441	23·1	76·9
September	2,036	484	23·8	76·2	September	2,153	494	22·9	77·1
October	2,443	476	19·5	80·5	October	2,803	563	20·1	79·9
November	2,620	464	17·7	82·3	November	3,025	580	19·2	80·8
December	2,676	611	22·8	77·2	December	2,930	614	21·0	79·0

TABLE XIV—*Continued*

Month	Total Value All Contracts (Millions)	Funds Actually Required (Millions)	Per Cent. Check Paid to Total	Per Cent Obviation	Month	Total Value All Contracts (Millions)	Funds Actually Required (Millions)	Per Cent Check Paid to Total	Per Cent Obviation
1937					1938				
January	3,053	548	18 0	82·0	January	1,921	379	28 4	71·6
February	2,991	506	16 9	83 1	February	954	269	28·2	71·8
March	3,624	654	18·1	81·9	March	1,239	374	30·2	69 8
April	2,528	535	21 2	78·8	April	1,132	344	30 4	69 6
May	1,658	398	23 9	76·1	May	998	336	33 7	66·3
June	1,382	409	29 6	70·4	June	1 286	379	29 5	70 5
July	1,647	438	26 6	73 4	July	1 920	382	19·9	80 1
August	1,451	415	28 6	71 4	August	1 310	362	27 7	72 3
September	1,850	444	24 0	76 0	September	1 282	293	22 9	77 1
October	1 985	473	23 8	76 2	October	1 916	366	19 1	80 9
November	1,590	386	24·3	75·7	November	1 066	259	19 0	81·0
December	1,604	426	26 6	73·4	December	1 613	361	22·4	77 6

Source *New York Stock Exchange Bulletins*

TABLE XV

BROKERS' CASH BALANCES, TOTAL CLEARING HOUSE TRANSACTIONS AND CLEARING HOUSE BALANCES SETTLED BY CHECK

1935–1939

In Millions of Dollars   January 1936 = 100

	Cash balances of New York Stock Exchange Brokers	Total value of clearing house transactions	Total value of clearing house balances settled by check	Percentage of check payments to total transactions	Percentage of cash balances to check payments	Percentage of cash balances to total transactions	Velocity of circulation of cash balances *per annum* with reference to		Index of brokers' cash balances	Index of total value of clearing house transactions	Index of velocity of cash balances *per annum* with reference to total transactions
							Actual check payments	Total transactions			
1935											
Sept	182	2,036	484	23·77	37·60	8·94	31·91	134·24	94	60·17	63·80
Oct	187	2,443	476	19·48	38·48	7·65	30·55	156·77	97	72·19	74·51
Nov	189	2,629	464	17·65	40·73	7·19	29·46	166·92	98	77·69	79·35
Dec	179	2,678	611	22·83	29·30	6·69	40·96	179·40	93	79·08	85·27
1936											
Jan	193	3,384	785	23·20	24·59	5·70	48·81	210·40	100	100·00	100·00
Feb	208	3,111	580	18·64	35·86	6·69	33·46	179·48	108	91·93	85·30
Mar	181	3,390	783	23·10	23·12	5·34	51·91	224·75	94	100·18	106·82
April	268	2,675	738	27·59	36·31	10·02	33·04	119·78	139	79·05	56·93
May	229	1,887	521	27·61	43·95	12·14	27·30	98·88	119	55·76	47·00
June	219	2,055	643	31·29	34·06	10·66	35·23	112·60	113	60·73	53·52
July	221	2,356	519	22·03	42·58	9·38	28·18	127·93	115	69·62	60·80
Aug	213	1,908	441	23·11	48·30	11·16	24·85	107·49	110	56·38	51·09
Sept	227	2,153	494	22·94	45·95	10·54	26·11	113·81	118	63·62	54·09
Oct	235	2,803	563	20·06	41·74	8·38	28·75	143·64	122	82·83	68·27
Nov	260	3,025	590	19·50	44·07	8·60	27·23	139·62	135	89·39	66·36
Dec	249	2,950	619	20·98	40·23	8·44	29·83	142·17	129	87·17	67·57

TABLE XV—*Continued*

	Cash balances of New York Stock Exchange Brokers	Total value of clearing house trans actions	Total value of clearing house balances settled by check	Percent age of check payments to total trans actions	Percent-age of cash balances to check pay ments	Percent age of cash balances to total trans-actions	Velocity of circulation of cash balances *per annum* with reference to		Index of brokers' cash balances	Index of total value of clearing house trans actions	Index of velocity of cash balances *per annum* with reference to total trans actions
							Actual check payments	Total trans actions			
1937											
Jan	243	3,053	548	17·95	44·34	7·96	27·06	150·77	129	90·22	71·96
Feb	230	2,961	500	18·89	46·00	7·77	28·09	154·49	110	87·50	73·42
Mar	223	3,624	654	18·05	34·10	6·15	35·19	195·01	116	107·09	92·69
April	227	2,528	535	21·16	42·43	8·98	28·28	123·64	118	74·70	63·52
May	209	1,658	399	23·88	52·38	12·91	22·74	95·20	108	49·00	45·25
June	214	1,382	408	29·52	52·32	15·48	22·93	77·50	111	40·84	36·83
July	206	1,647	438	26·59	47·03	12·51	25·51	95·94	107	48·67	45·90
Aug	202	1,451	415	28·60	48·67	13·92	24·65	86·20	105	42·88	40·97
Sept	239	1,850	444	24·00	53·83	12·92	22·29	92·89	124	54·67	44·15
Oct	263	1,995	476	23·86	55·25	13·18	21·72	91·03	136	58·95	43·27
Nov	225	1,590	386	24·28	58·29	14·15	20·59	84·80	117	46·99	40·20
Dec	232	1,604	426	26·56	54·46	14·46	22·03	82·97	120	47·40	39·43
1938											
Jan	220	1,321	379	28·49	58·51	16·65	20·51	72·05	114	39·04	34·24
Feb	207	954	269	28·20	76·95	21·70	15·59	55·30	107	28·19	25·28
Mar	215	1,239	374	30·19	57·49	17·35	20·87	69·18	111	36·61	32·97
April	203	1,132	344	30·35	59·01	17·93	20·33	66·92	105	33·45	31·91
May	208	998	336	33·67	61·90	20·84	19·39	57·58	108	29·49	27·37

TABLE XV—*Continued*

	Cash balances of New York Stock Exchange Brokers	Total value of clearing house trans-actions	Total value of clearing house balances settled by check	Percent-age of check payments to total trans-actions	Percent-age of cash balances to check pay-ments	Percent-age of cash balances to total trans-actions	Velocity of circulation of cash balances *per annum* with reference to		Index of brokers' cash balances	Index of total value of clearing house trans-actions	Index of velocity of cash Balances *per annum* with reference to total trans-actions
							Actual check payments	Total trans-actions			
1938											
June	215	1,286	376	29·47	56·73	16·72	21·16	71·77	111	38·00	34·11
July	204	1,320	382	19·90	54·71	10·86	21·93	110·19	108	56·74	52·37
Aug	200	1,310	362	27·63	55·25	15·27	21·72	78·59	104	38·71	37·35
Sept	213	1,282	293	22·85	72·70	16·61	16·51	72·25	110	37·88	34·34
Oct	196	1,316	366	19·10	53·56	10·23	22·41	117·30	102	56·62	55·75
Nov	186	1,606	298	18·03	63·42	12·07	18·92	99·42	98	46·28	47·25
Dec	190	1,613	361	22·38	52·63	11·78	22·80	104·53	98	47·67	46·66
1939											
Jan	162	1,556	348	22·34	55·17	12·32	21·75	97·40	96	46·04	46·26
Feb	168	1,015	245	24·14	68·57	16·55	17·50	72·51	87	26·96	34·46
Mar	174	2,946	652	22·13	26·69	5·91	44·96	203·05	90	87·06	96·51
April	160	1,884	435	23·06	43·68	10·06	27·47	119·05	98	55·67	59·58
May	183	2,159	544	25·20	33·64	8·48	35·67	141·51	95	63·80	67·26
June	178	2,147	523	24·38	34·03	8·29	35·26	144·75	92	63·45	68·60

Sources: For cash balances—*Annual Reports of the Federal Reserve Board* and *Federal Reserve Bulletins*
For clearing house transactions—*New York Stock Exchange Bulletins*

TABLE XVI

TRANSACTIONS AND CUSTOMERS' BALANCES

1932-1939

In Millions of Dollars January, 1932=100

Year and Month	Customers' Debit Balances	Transactions	Customers' Free Credit Balances	Index of Customers' Debit Balances	Index of Transactions	Index of Customers' Free Credit Balances
1932—January	1,291	2,252	263	100 00	100 00	100 00
February	1 284	2 291	201	97 88	101 73	89 24
March	1,202	1,999	252	96 32	97 43	95 82
April	981	1 993	232	76 21	88 49	88 21
May	922	1 619	215	66 19	71 89	81 75
June	737	1,559	208	58 40	69 05	79 09
July	749	1,191	223	99 39	52 89	84 79
August	931	3 385	282	73 83	150 31	107 22
September	937	2,969	269	74 31	131 94	102 28
October	857	1,716	255	67 36	76 20	96 96
November	851	1 348	249	68 28	59 86	93 64
December	841	1 392	238	66 99	61 81	90 49

TABLE XVI—*Continued*

Year and Month	Customers' Debit Balances	Transactions	Customers' Free Credit Balances	Index of Customers' Debit Balances	Index of Transactions	Index of Customers' Free Credit Balances
1933—January	834	1 543	235	66·14	68·52	89·35
February	790	1 545	206	62·65	68·61	78·33
March	768	1 344	196	60·90	59·68	74·53
April	833	2 041	252	66·06	90·63	95·82
May	1 106	4,032	307	87·71	179·04	116·73
June	1 397	5 000	324	110·79	222·03	123·19
July	1 467	5 353	291	116·34	237·70	110·65
August	1 469	2 640	275	116·50	117·23	104·56
September	1 429	2 389	257	113·33	106·20	97·72
October	1 306	2 456	230	103·57	109·06	87·45
November	1 301	2 154	228	103·17	95·66	86·69
December	1 308	1 841	224	103·73	81·76	85·17

TABLE XVI—*Continued*

Year and Month	Customers' Debit Balances	Transactions	Customers' Free Credit Balances	Index of Customers' Debit Balances	Index of Transactions	Index of Customers Free Credit Balances
1934—January	1,391	2 643	259	110·31	117·38	98·48
February	1,444	2 885	271	114·51	132·55	103·04
March - - -	1,463	2 171	246	116·02	96·40	93·54
April - - -	1,540	2 275	236	122·13	101·02	89·73
May - - -	1,429	2 074	215	113·32	92·10	81·75
June - - -	1,450	1,554	183	114·99	84·38	69·58
July - - -	1,293	1 726	182	102·54	76·64	69·20
August - -	1,264	1 547	184	100·24	68·69	70·72
September -	1,219	1 195	171	96·67	53·06	65·02
October - -	1,207	1 429	170	95·72	63·45	64·64
November - -	1,203	1 418	177	95·40	62·96	67·30
December - -	1,213	1 911	178	96·19	80·42	67·88

TABLE XVI—*Continued*

Year and Month		Customers' Debit Balances	Transactions	Customers Free Credit Balances	Index of Customers' Debit Balances	Index of Transactions	Index of Customers' Free Credit Balances
1935—	January	1 174	2 014	183	93·10	89·43	66·58
	February	1 146	1 435	188	90·88	63·72	70·34
	March	1 080	1 870	177	85·66	83·04	67·30
	April	1 092	1 954	207	86·60	86·77	78·71
	May	1 081	2 076	210	85·73	92·18	76·85
	June	1 086	1 787	218	86·12	79·35	83·27
	July	1 093	2 085	224	86·68	92·58	85·17
	August	1 113	2 306	242	88·26	102·40	92·02
	September	1 137	2 036	259	90·17	90·41	98·48
	October	1 187	2 443	262	94·13	108·48	107·22
	November	1 247	2 629	307	98·68	116·74	118·78
	December	1 302	2 676	284	103·25	118·83	107·88

TABLE XVI—*Continued*

Year and Month	Customers Debit Balances	Transactions	Customers' Free Credit Balances	Index of Customers' Debit Balances	Index of Transactions	Index of Customers' Free Credit Balances
1936—January	1 287*	3 384	315*	102·56	150·27	121·25
February	1 290	3 111	328	102·30	138·14	124·72
March	1 351	3 390	303	107·14	150·53	115·21
April	1 295	2 675	301	102·70	118·78	114·45
May	1 257	1 435	282	99·68	63·75	107·22
June	1 267	2 055	276	100·48	91·25	104·94
July	1,295	2 355	287	102·70	104·62	109·13
August	1 287	1 458	283	102·05	64·73	107·61
September	1 317	2 153	289	104·44	95·60	109·89
October	1 333	2 803	318	105·71	124·47	120·91
November	1 364	3 025	346	108·17	134·33	131·56
December	1 395	2 940	342	110·63	130·56	130·04

TABLE XVI—*Continued*

Year and Month	Customers' Debit Balances	Transactions	Customers Free Credit Balances	Index of Customers' Debit Balances	Index of Transactions	Index of Customers' Free Credit Balances
1937—January	1 433	3 033	372	113·64	135·57	141·45
February	1,482	2 361	366	117·53	131·48	139·18
March	1,549	3 824	348	122·84	160·92	131·53
April	1 530	2 528	314	123·62	112·28	119·83
May	1 503	1,838	284	119·13	73·62	107·93
June	1,488	1,382	266	118·08	81·37	101·14
July	1 423	1,647	265	118·40	73·14	100·78
August	1,509	1,451	252	119·87	64·43	95·92
September	1 383	1,830	256	108·06	82·15	97·34
October	1 083	1 395	272	83·31	88·58	103·42
November	1,034	1,390	270	82·00	70·80	102·66
December	985	1 304	278	78·11	71·23	105·70

TABLE XVI—*Continued*

Year and Month	Customers' Debit Balances	Transactions	Customers' Free Credit Balances	Index of Customers' Debit Balances	Index of Transactions	Index of Customers' Free Credit Balances
1938—January	959	1,321	288	75·97	58·90	109·51
February	937	964	280	74·31	42·39	108·49
March	831	1,239	230	55·90	55·02	90·98
April	783	1,132	249	60·51	50·27	94·30
May	760	998	243	60·27	44·32	92·40
June	774	1,286	258	61·38	57·10	98·10
July	843	1,920	284	66·85	85·28	107·58
August	864	1,310	272	68·52	58·17	103·42
September	823	1,282	257	65·27	56·93	97·72
October	905	1,918	270	71·77	85·09	102·66
November	939	1,506	252	74·40	69·54	95·92
December	991	1,913	247	78·69	71·63	93·92
1939—January	971	1,558	239	77·90	69·18	89·35
February	987	1,015	222	79·89	45·07	84·41
March	953	2,946	225	75·57	120·82	85·55
April	831	1,884	239	65·90	83·66	89·73
May	828	2,159	230	65·89	96·97	97·45
June	834	2,147	230	65·14	95·34	97·45

*Beginning from January, 1936, the figures published by the Federal Reserve Board were used. They differ only slightly from those collected by the N.Y. Stock Exchange as can be seen by comparing the figures for September to December, 1935 from the above series with those reproduced in Table XI.

Sources: For customers' balances—1932-1935, New York Stock Exchange (unpublished)

1936-1939, *Federal Reserve Bulletins*

For transactions—*New York Stock Exchange Bulletins*

TABLE XVII

NEW CAPITAL ISSUES FOR THE UNITED KINGDOM, CALL MONEY, CALL MONEY RATES AND STOCK PRICE INDEX

1922-1929

Month	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index
	Million £	Million £	Per cent	1924=100	Million £	Million £	Per cent.	1924=100	Million £	Million £	Per cent.	1924=100
	1922				1923				1924			
Jan	27·4	117	2·63		1·7	111	1·21		5·6	102	2·04	
Feb	9·9	117	2·00		1·2	109	1·79		5·5	92	2·65	
Mar	9·8	105	3·12		10·9	110	1·92		6·8	102	2·10	
April	5·9	119	2·13		5·9	118	1·38		2·9	103	2·23	
May	9·0	119	1·75		4·8	109	1·85		5·8	100	2·17	
June	8·0	123	2·10		9·2	119	1·40		13·7	109	1·80	
July	12·1	113	1·58		9·3	108	2·42		12·8	109	2·40	
Aug	8	109	1·58		4	108	2·10		1·2	105	2·92	
Sept	4·7	109	1·79		5	107	2·40		5·3	114	2·71	
Oct	7·7	107	1·58		17·7	108	2·48		9·4	108	2·79	
Nov	5·6	104	1·91		9·2	111	2·34		11·0	107	2·90	
Dec	5·0	109	1·29		9	108	1·87		10·3	117	2·46	

TABLE XVII—*Continued*

Month	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index
	Million £	Million £	Per cent	1924=100	Million £	Million £	Per cent	1924=100	Million £	Million £	Per cent	1924=100
	1925				1926				1927			
Jan -	14·3	116	2·85	110	9·5	116	4·10	111	10·3	130	3·79	120
Feb -	11·2	123	2·94	108	22·3	115	4·06	114	16·4	122	3·85	119
Mar -	16·0	106	3·50	108	12·3	112	4·20	113	27·7	129	4·08	116
April -	6·0	113	3·92	107	8·5	116	4·04	111	10·1	133	3·62	119
May -	16·9	108	4·27	106	4·3	112	3·94	113	23·9	126	3·63	122
June	21·8	117	3·70	108	13·5	120	3·70	116	12·4	144	3·50	122
July	6·8	123	3·50	103	15·6	130	4·12	113	16·3	136	3·47	122
Aug	·8	121	3·50	108	·8	118	3·87	114	2·1	162	3·66	124
Sept	1·7	118	3·13	109	6·7	121	3·87	116	3·2	142	3·67	126
Oct	11·0	116	3·06	112	13·6	127	4·12	116	14·6	161	3·60	131
Nov -	12·3	111	3·61	116	18·7	124	4·00	117	23·2	153	3·66	131
Dec -	12·3	124	3·90	113	14·4	127	3·95	116	13·6	162	3·60	131

TABLE XVII—*Continued*

Month	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index
	Million £	Million £	Per cent	1924=100	Million £	Million £	Per cent	1924=100	Million £	Million £	Per cent	1924=100
	1928				1929				1930			
Jan	14·2	154	3·40	137	19·0	190	3·94	149	11·3	149	4·04	124
Feb	22·9	154	3·56	136	26·2	189	5·06	148	9·0	134	3·80	119
Mar	19·7	156	3·73	141	24·8	189	4·58	143	19·9	141	3·30	119
April	10·9	152	3·75	143	28·8	164	4·44	143	11·9	142	2·23	120
May	28·8	155	3·63	148	12·3	190	4·89	144	17·8	138	1·94	119
June	29·4	151	3·17	143	14·0	144	4·23	141	7·7	142	2·13	112
July	24·1	154	3·38	139	13·9	146	4·72	139	13·1	150	1·88	112
Aug	9·9	148	3·48	140	2·2	151	4·13	142	3·9	139	1·96	109
Sept	7·9	150	3·69	143	1·9	158	4·21	144	2·4	133	1·89	110
Oct.	20·7	152	4·06	146	7·9	160	5·27	139	12·9	148	1·99	103
Nov.	17·0	149	3·82	143	9·3	143	5·39	121	11·9	136	2·04	105
Dec	19·0	162	3·25	139	4·9	150	4·64	121	10·4	144	1·52	99

TABLE XVII—*Continued*

Month	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index
	Million £	Million £	Per cent	1924=100	Million £	Million £	Per cent	1924=100	Million £	Million £	Per cent	1924=100
	1931				1932				1933			
Jan	7·8	144·3	1·67	96	3	117·6	4·46	82	7·6	114	·75	95
Feb	6·0	115·6	2·60	84	6·1	109·6	4·27	80·5	4·6	112	·75	96
Mar	7·4	114·1	2·23	85·5	11·1	112·5	2·48	86	12·3	109	·58	92
April	1·4	117·6	2·31	84	9·6	112·4	1·98	83	7·3	105	·63	93
May	·9	131·5	1·88	80	8·6	113·1	1·38	77	8·3	98	·58	96
June	4·4	136·2	1·56	82	15·4	113·4	·94	73	16·0	101	·58	101
July	2·8	130·5	1·75	86	3·2	123·0	·67	83	6·2	96	·58	108
Aug	1·6	113·2	3·58	82	—	117·5	·71	86	1·3	91	·62	106
Sept	1·3	106·5	3·66	78	—	113·7	·94	90	6·7	91	·63	110
Oct	2·5	114·4	4·31	87	11·8	116·5	·71	90	8·9	89	·75	115
Nov	4·3	109·4	5·02	92	10·3	116·6	·69	92	12·2	98	·75	114
Dec.	2·7	116·4	4·21	81	4·0	126·6	·75	91	5·1	116	·75	113

TABLE XVII—*Continued*

Month	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index
	Million £	Million £	Per cent	1924=100	Million £	Million £	Per cent	1924=100	Million £	Million £	Per cent	1924=100
	1934				1935				1936			
Jan	6·7	183	·80	118	14·4	137	·69	137	32·0	159	·75	154
Feb	5·3	118	·88	116	2·7	127	·63	133	18·5	157	·75	166
Mar	6·0	120	·88	122	11·5	133	·73	130	6·5	162	·75	165
April	6·7	132	·88	124	2·4	137	·75	131	8·8	161	·75	160
May	11·4	131	·73	127	18·6	142	·75	137	17·2	158	·75	154
June	7·0	140	·88	124	13·8	143	·75	141	18·5	158	·75	154
July	10·0	136	·88	124	50·0	145	·75	141	20·7	158	·75	157
Aug	3·2	139	·88	125	4·8	143	·75	146	4·3	163	·75	165
Sept	5·8	137	·75	127	7·8	147	·75	141	8·0	168	·75	166
Oct	20·8	138	·75	128	3·8	141	·75	138	22·7	164	·75	175
Nov	11·0	135	·67	132	9·2	147	·75	149	18·8	161	·75	163
Dec.	3·1	151	·63	131	9·7	159	·75	147	17·6	195	·75	187

TABLE XVII—*Continued*

Month	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index	New Capital Issues	Money at Call and Short Notice	Day to Day Money Rates	Industrial Stock Price Index
	Million £	Million £	Per cent	1924=100	Million £	Million £	Per cent	1924=100	Million £	Million £	Per cent	1924=100
	1937				1936				1935			
Jan	24·8	176	·75	168	8·5	154	·75	136	10·3	143	·75	115
Feb	8·0	166	·75	165	13·6	144	·75	128	7·0	138	·75	118
Mar	9·8	170	·75	156	6·3	150	·75	120	2·6	141	·75	126
April	7·1	177	·75	156	4·7	150	·75	129	1·2	145	·75	115
May	8·3	168	·75	154	18·6	146	·75	123	1·5	144	·75	119
June	22·6	171	·75	148	8·1	164	·75	118	17·4	150	·75	118
July	14·6	163	·75	150	11·2	159	·75	125	1·7	155	·75	115
Aug	6·5	162	·75	152	1·8	153	·75	122				
Sept	1·6	162	·75	146	1·6	148	·75	117				
Oct	13·1	166	·75	139	1·8	146	·75	119				
Nov	11·4	160	·75	138	10·0	145	·75	123				
Dec	10·7	163	·75	136	8·3	150	·75	116				

Sources For New Capital Issues and for Industrial Stock Price Index. London and Cambridge Economic Service, *Monthly Bulletins* and *Special Memorandum* No 33

For Money at Call and at Short Notice and for Money rates Bank of England *Statistical Summary*

TABLE XVIII

LOANS OF MONEY AT SHORT NOTICE TO THE STOCK EXCHANGE AS REPORTED BY THE LONDON CLEARING BANKS

1922–1931

£000

Month	1922	1923	1924	1925	1926
January	22,532	21 288	18 828	31,809	32,488
February	19 823	26 942	18 203	31 580	31 243
March	22 781	28 400	21 705	31 878	31,722
April	23 280	27 085	25 076	29 960	30 340
May	25 412	28 345	20 525	28 465	30,826
June	24 417	29 500	22 698	31 098	31,101
July	24 331	24 083	21 849	28 292	31 324
August	25 478	21 130	21 784	28 049	30 705
September	22 883	20 747	22 733	27,812	29 598
October	23 123	22,828	22 748	30 807	33 434
November	22 733	23,072	26,651	30,984	34 817
December	23 777	23 684	28 492	35 357	36,848

TABLE XVIII—*Continued*

Month	1927	1928	1929	1930	1931
January - -	34 781	45,064	46,989	31,718	22 042
February - -	33,901	47,456	45,202	31,679	19 813
March -	36,440	50,879	46,178	34 462	22 269
April -	37,076	51,955	45,909	33 445	
May -	40 256	46,221	47,436	35,943	
June -	41 380	46,232	47,434	32 386	
July -	39,259	44,111	46,724	27,186	
August -	39,113	42,484	48,249	23,362	
September	40,472	46,868	44,577	23 541	
October	43,286	50,164	35,550	22 230	
November -	41,880	49,410	35,741	22 463	
December	47,026	50,583	32,528	23,522	

Source —*Report of the Committee on Finance and Industry (MacMillan Report)*, 1931

INDEX OF NAMES.

Aldrich, Winthrop W., 267n, 269

Anderson, Benjamin M., 113n, 119n, 121n, 283 284

Balogh, Thomas, 68, 70, 94n, 128, 262

Beckerath, Herbert von, 67, 68, 226n, 278

Beckhart, Benjamin H., 106

Bendixen, Friedrich, 190

Blaisdell, William M., 328n

Bohm Bawerk, Eugen von, 8-12, 18n

Burgess, W Randolph

Cantillon, Richard 94n

Cassel, Gustav, 6, 7, 10, 11, 17, 31, 32, 46, 69, 164, 165n, 171, 180-182, 267, 278

Catchings, Waddill, 168

Clark, John Maurice, 49n, 54n

Crost, Joseph G., viii

Currie, Lauchlin, 137n

Eckerstadt, R., 7

Edgeworth, Francis Y., 190n

Edwards, George W., 24n

Eiteman, Wilford J., viii, 98n, 105, 115n, 116n, 124n, 318n, 322n

Ellis, Howard S., 96n 97n, 106, 145n, 284n, 298n

Fisher, Irving, 240n, 279n

Fraser, Lindley M., 279-280

Fullarton, John, 190

Foster, William T., 168

Gordon, Robert A., 22n

Grant, A. T. K., 330n

Haberler, Gottfried von viii, 190n, 199n, 247n, 298n

Hahn, Albert, 74, 278

Halm, George, 10n, 34n, 36n, 232, 243-244, 273-275

Hamlin, Charles S., 273n

Hardy, Charles O., 24n, 77n, 91n, 139n, 234n, 273n, 275

Hawtrey, R. G., 57n, 107n, 120n, 121n, 190n, 228n, 247n, 255, 262n, 298n

Hayek, Friedrich A. von, vi, vii, viii, 15n, 18n, 81n, 164, 166, 170n, 177n, 182, 187n, 190n, 194, 247-248

Holtrop, N. W., 184n, 187n, 215n

Hoover, Calvin B., 319n

Jaffe, Edgar, 74n

Kahn, R. F., 298n

Keynes, John Maynard, v, vi, 24n, 91n, 121n, 129-133, 135-136, 137n, 138-139, 142-143, 145, 168, 176n, 181n, 183, 195, 197, 198, 264, 281n

Knight, Frank H., 22n, 165n

Koopmans, J. G., vii, 81n, 82n

Lachmann, L. M., 142n

Lampe, Adolf, 166, 182-183

Lavington, F., 24n, 36n, 120n, 140n

Lederer, Emil, 185n, 191n, 192, 206

Liefman, Robert, 24n

Machlup, Fritz, 3n, 72n, 155n, 165n, 168n, 170n, 194n, 230n, 254n, 264n

Marget, Arthur W, 84n

Marshall, Alfred, 190n

Menger, Carl 8, 10n, 11, 17n, 51n 227, 228

Meyers, Albert L, viii

Mises, Ludwig von, viii, 73, 164, 171 190n 194, 224n, 228, 236n, 247 248

Moulton, Harold G, 7, 51n, 146 153

Myrdal, Gunnar, 16n

Neisser, Hans, 85n, 187n, 190n 226n

Ohlin, Bertil, 185n

Owens, Richard N., 91n, 234n, 275

Palyi, Melchior, 68, 69

Persons, Warren M., 95n

Philippovich, Eugen von 204

Phillips, Chester Arthur, 240n

Pierson, Nicolaas Gerard, 190n

Pigou, A C (Arthur C), 91n, 190n

Polak, N J., 204, 206, 214 218, 226n 231n

Prion Willi, 8n

Reed, Harold L, 44n, 45n

Reisch, Richard, 44-45, 47, 49, 60 63, 67, 258, 279

Ricardo, David, 243n

Richter Altschaeffer, Hans, 116n

Robbins, Lionel, 279n

Robertson, Dennis H., v, vi, 190n 204n

Robinson, Joan, 178n

Rogers, James H., 114n, 318n, 325n

Röpke, Wilhelm, 160n, 179, 180n, 285

Rosenstein-Rodan Paul N, 51n

Schlesinger, Karl, 180n

Schmidt-Essen, Alfred, 190n

Schulze Gaevernitz, G von, 11

Schumpeter, Joseph A, 171

Shaw, E S, 176n

Simon, Hans, 270n

Smith, Bradford B, viii

Smith, Vera, viii

Somary, Felix, 200n

Strigl, Richard von, 248n, 252

Taussig, Frank W, 190n

Thomas, Woodlief 138n, 251n, 300n

Tooke Thomas, 190

Tucker, Rufus S, 64n

Villard, Henry Hilgard, 152n

Wagner, Valentin F, 191n, 225n, 226n 230n

Weber, Max, 1n, 10n, 17

Wicksell Knut, 164, 171

Wieser, Friedrich von 79-81

Williams John H, 89n, 143n

INDEX OF SUBJECTS.

Absorption of capital—
meaning of, 6-7, through increase in stock prices, 7, 120n, 148-153, through real investment, 30, 38, 256, through consumption of profits, 32-34, 54, 63

Absorption of circulating media—
analogous to hoarding, 41, by speculators' transactions, 44, 55, 78, 87, 289, conditions for, 47-48, by chains of transfer payments, 50, 88, 93, 113, 289, due to lack of new issues, 52, 289, by the stock exchange, 67-78, 86-88, 93-96, 289, 312, by brokers' transactions, 73-77, 289, as a localization of an inflation, 94, by bearish sellers, 129-145, 290, in savings deposits, 132-137, 183

Agricultural credit, 260n, 282, 294

Amortization (see replacement fund)

Anti-pyramiding zone, 268

Balance of payments, international 157-162, 317

Bank deposits (see demand deposits, savings deposits, &c.)

Banking Act of 1933, 111n, 314

Banking school, 106, 190, 191

Bank reserves—
ratio of—to deposits in England, 132n, not affected by rise in savings deposits 134, hundred per cent, 240, 295, controlled by monetary authorities, 265, 268, 292, not affected by stock exchange turnover, 303 (see also excess reserves)

Barometer of markets, 95n, 229

Bear position—
and liquid funds, 129-145, 291; defined, 131, not always deflationary, 139-142, and liquidity preference, 141

Brokerage deposits—
as substitutes for bank deposits, 55, 87, 288-290, 307-310, 325, defined, 87n, 307, circulation of, 37-38, 307-310, 325, brokers' loans, customers' loans and, 101, 104, 303-306, 319-321, transformed into loans to brokers, 119, statistics of, 319-321, 372-374, 356-393

Brokers' bank balances, 77, 87, 100n, 106, 289, 303, 307, 316-326, 372-375, 353-355

Brokers' loans—
a safe bank asset, 64n, on account of others, 92n, 111-128, 290, 303-306, 313-314; mechanism of—illustrated, 97-128, a multiple of the funds involved, 112, 114, 117, 290, repaid by various methods, 115, 116, 122, 123, 290, financed out of

Brokers' loans—*continued*
  sales proceeds, 118-121, 126, 128, 140-144, 313, affecting lending capacity of banks, 119, 283-284, 313, excessive—dangerous for market stability, 120, causes of rise of—listed, 125-127, rise of—related with bear position, 136, 145, watched by monetary authorities, 286-299, daily changes in—examined, 305-306, statistics of, 311-315, 319, 321, 329, 331-345, 372-374, 399-400

Bull sentiment—
  and easy money, 48, 55, without easy money, 90, inflationary effect of, 131, 265

Business cycle (see fluctuations)

Call loan rates—
  effects of—on security prices, 91, 234, 275-276, high—attract loans from stock sellers, 109, 136, low—make for idle funds, 144-145, 319, seasonal fluctuations of, 232, 234-235, and commercial banks, 259, rise with security issues, 280, low—due to large short-term funds, 285, 296, statistics of, 280, 315, 346-347, 384-399 (see also short-term funds)

Call loans—
  satisfying liquidity preference, 140-141, 291, statistics of, 329, 384-399 (see also brokers' loans)

Capital concepts, 8-19

Capital consumption (see consumption of capital)

Capital disposal, 10-14, 17-18, 36n, 165 (see also money capital)

Capital formation (see formation of capital)

Capital gains—
  consumption of, 32-33, 54, 64, 66, 107, 125, 151, 288, and national income, 61, 149, 153, 291, considered a part of savings, 149-153 (see also profits)

Capital goods (see real capital)

Capital issues (see issues of securities)

Capital losses (see loss of capital)

Capital movements—international, 155-163, 317-318, 371

Capital optimum, 281

Capitalization—
  rate of, 254n, 274-276, 281

Cash balances—
  of bearish sellers, 39, 126, 129-145, 318, 319, and liquidity preference, 50, 140-145, of speculators, 85-87, 318-319, of brokers, 77, 87, 106, 269, 303, 307-310, 319-326, 372-375, 383-385, of savers, 84, 135, of consumers, 84, 224, cancelled through debt repayment, 64, 101, 119, 124, 283, and time deposits, 138-139, of vertically integrated industries, 187-229, 245, and population growth, 179-180, 291, temporarily inactive, 211-230, 233-248, a part of business capital, 212, 228, 230, dishoarding of idle (see dishoarding), piling up idle (see hoarding); (see also surplus cash balances)

INDEX OF SUBJECTS

Cession payments (see transfer payments)

Circulating capital (see working capital)

Clearing—
  arrangements of stock exchanges, 47, 55; may reduce demand for money, 72-73, 245; balances not a function of turnover, 75-77, 289, 322; statistics of stock exchange, 77, 322-324, 377-385; balances need not affect brokers' loans, 93-98, 105, 289, 323; and velocity of circulation, 324-325

Coefficient—
  of money transactions, 54n, 187n, 229, 297; of industrial differentiation, 187n; of concurrent deviations, 321, 324

Collateral of bank loans, 265-270, 311, 312

Commercial and Financial Chronicle, 364

Commercial bank credit, 190-193, 259, 265, 278, 282 (see also quality of credit)

Consumption—
  of capital gains, 32-33, 54, 64, 66, 107, 125, 289; financed by created credit, 54, 177-178; of capital, 57-58, 63-64, 169-170; financed by brokers' loans, 107, 125ff, 178; affects investment demand, 146, 178, 254-255; increased—may reduce investment, 170, 175; production of goods, 191-192, 207; postponement of (see temporary saving, refraining from saving)

Control of credit—
  quantitative vs. qualitative, 5, 95, 200, 260, 269, 292, 294, 296, 300 (see also monetary policy, margin requirements, quality of credit)

Corporate saving, 170, 186, 202

Cost of production—
  reduced through technical progress, 177; marginal—hardly affected by interest rate, 254; reduced as recovery policy, 295

Creation of credit—
  politically controlled, 4, 263ff; increases supply of money capital, 14-18, 53, 92, 171, 179, 229, 289; affects interest rates, 54, 174-176, 180, 195, 198, 252, 278, 286-287; financing consumption, 54, 177-178, 254, 291; to meet cash requirement of stock exchange, 69; supports stock market boom, 92-94, 259, 289, 290; stopped short, 96; through brokers' loans, 104, 116; in United States, 1926-1929, 137, 279; and increase in savings deposits, 137-139; and industrial fluctuations, 164-173, 177-182, 194-199, 286, 294; financing capital production, 164-173, 177-178, 252-255, 286, 291; changes production structure, 171-175, 178, 182, 194, 198, 207, 209, 252, 295; liable to end with a crisis, 173, 291, 294-295; affects price level, 174-182; to stabilize price level, 177, 179-182, 291, 295; to compensate for hoarding, 183-184, 197, 199, 291; to compensate for increase in money work, 187-188, 229, 291; with growth of population, 188-189; through self-liquidating loans, 190-193, 206, 265, 291; to meet needs of trade, 190, 265; to provide working capital, 192, 200, 202-203, 252-255, 291; to reduce

Creation of Credit—*continued.*

unemployment, 194-196, 205, to finance public works, 194-197, checked through qualitative control, 209, 260, 269, 292, 300, for unknown uses, 201, 251, 256-257, 292, contrasted with transfer credit, 224, 231-232, 237-239, 292, out of surplus cash balances, 227, 232, 235, 244, 292, 295, to ease seasonal swings in money rates, 235, 243, barred by 100 per cent reserves, 240, 294, not necessary for explanation of upstart, 244, 247, 292, caused by stock market boom, 266, by brokers, 310, 325-326

Credit expansion (see creation of credit)

Credit policy (see monetary policy)

Critical payments days, 221, 235, 242, 248, 296

Cumulative—reversive movement, 171, 199

Day loans to New York brokers, 90n. 327

Day-to-day money rates, 394-399 (see also call loan rates, brokers loans, deflation)—

through spontaneous hoarding, 26, 183, 199, loss to society due to, 42, caused by stock exchange losses, 63, 64, caused by absorption of money, 70, caused by bearishness, 132-145, due to increase in savings deposits, 133-139, through foreign lending, 159, through foreign withdrawals, 160, through excess of saving over investment, 166, 183, offset by credit creation, 183-184, 198, 291, due to increase in money work, 187-188, 229, 291, due to population growth, 188-189, avoided by lending surplus funds, 223-227, not easily controlled, 264, of costs as recovery policy, 285

Delaware Charter, 115

Demand deposits—

included in money concept, 15, switch from savings deposits to, 131, switched to savings deposits, 132-145, nature of, 237-239 (see also cash balances, creation of credit)

Demand for credit—

elasticity of—for long term, 49-54, 317, and interest rates, 50, 246, by the stock market, 97-128, 286, confused with demand for money, 228-230, elasticity of—for short term, 233-234, elasticity of—for working capital, 253, is no "cause" of supply of credit, 263

Demand for money, 67-73, 84, 228-229, 242, 289 (see also absorption of circulating media)

Depreciation allowances (see replacement funds)

Derived demand—

for fixed capital, 148, 196, 254-256, for working capital, 254-256

Derivative deposits, 240, 307, 325

Discounting commercial paper, 190-193, 259, 265, 278

Dishoarding—
a source of money capital, 14-17, 286, demand for securities financed by, 89-90, 115, 124, combined with deposit cancellation, 124, through security purchases by savings depositors, 131, 144, shown by increased velocity, 132n, 138-139, if idle deposits make room for active ones, 139, and interest theory, 176n, balanced by hoarding, 194, through use of surplus cash balances, 212-214, 219-224, 227, 228n, 230n, 233, 236-240, 244, 246-248, 281, 296, encouraged by short bank loans, 234-235, 242-243, occurring once or recurring cyclically, 245-246, 247n, 282

Distribution—
of credit, 3, 4, 178, 281, of income, 42, 58, 156, of fictitious profits, 58, of brokers' business, 76, 289, 323, geographical—of bank deposits, 319

Duplication—
of investable funds, 219-222, 241, of credit security, 270-272

Durable goods, 12-16, 200, 202ff, 253-258

Easy money—
policy, 48, 108, 268, 300, to stimulate private investment, 195 (see also creation of credit, interest rates)

Elasticity—
of demand for credit, 49-50, 80, 233-234, 253, 317, of credit supply, 92, 235, 270

Enterpreneur—
the shareholder as, 22

Equilibrium rate of interest, 176, 180, 247-248 (see also natural rate of interest; excess reserves)—
of U S banks, 101, 124, 132n, 134n, 138, 265, 268, 299, 313

Exchange rates (see foreign exchange rates)

Exchange equalization account—
British, 161

Expectations as to security prices, 130, 133, 142n, 266, 278

Ex post savings, 185

Federal Reserve Board—
report of, 93n, 160n, 268n, 275n, statistics of, 137n, 313, 319-321, 333, 337, 343, 345-347, 349, 374, 376, 385, 393, regulation by, 268, 269

Financial circulation, 130, 133, 143, 327

Fiscal savings, 15

Fixed capital, 12-16, 200, 202-205, 253-258

Flexible exchange rates, 161

Flotations (see issue of securities)

Fluctuations—

in security prices, 23-25, 234, 275-276, 330; in interest rates, 91n, 232-235, 241-246, 275-277, 285-287; in supply of money, 160-162, 222, 228; in foreign exchange rates, 161; in industrial investment, 164-173, 177-182, 194-199, 203, 220, 241-242; trade, 164-173, 177-178, 181, 194-199, 220, 241-246, 294, 295; in capital requirements, 209-221, 226-230, 242-246, 291; in inventories, 211-212, 215-222; in surplus cash holdings, 211-213, 219-230, 241-248; in velocity of circulation, 213, 222, 226, 240n, 247n; in capital issues, 330

Forced saving, 179, 181-182, 185 (see also credit creation, investment, saving)

Foreign exchange rates, 161

Foreign lending and foreign capital, 157-163

Formation of capital, 12, 17, 19-21, 25-29, 35, 37-39, 65, 150, 164-173, 286, 288 (see also fixed capital; investment; saving)

Free money capital (see money capital)

Frivolous cycle theory, 295

Future goods (see investment, saving, money capital, period of production, production, &c.)

Gold inflation, 263

Gold production, 245, 253

Gold sterilization, 160

Gold standard, 161, 253, 297, 298

Guides to credit policy, 193, 296-300

Habits of payment, 94, 245

Hoarding—

by savers, 26, 135, 183; by security sellers, 39, 97n, 126, 129-145; effects of, 41-45; as increase in liquidity preference, 50, 130, 140-148; through increase in savings deposits, 132-139, 143; not implied in saving, 168; offset by credit creation, 183-184, 199, 291, 297; offset by public works, 197

Hot money, 162

Hundred per cent reserve, 240, 295

Idle balances (see cash balances; surplus cash balances; hoarding; dishoarding; liquidity preference)

Income—

change in distribution of, 42, 59, 156; capital gains considered as, 61, 66, 149-153, 291; real—increased with more employment, 176n, 186; new—to buy new production, 182; increased through investment, 197, 254, 264

Income velocity of circulation, 71

Industrial circulation, 133, 142

Industrial credit, 250, 278, 283

Industrial fluctuations, 164-173 (see also fluctuations, investment)

Inflatometer, 298

Inflation—

from credit creation and dishoarding, 15, 17, causes excess supply of money capital, 53, 92-96, 177, localized on stock exchange, 94-96, checked, 96, 264-265, 292, 296, 300, boom may be due to foreign, 163, as excess of investment over saving, 183, healthy if compensatory, 184-189, 291, true, 195, 198, of velocity of circulation, 213, 222-223, due to utilization of surplus cash balances, 213, 220-223, 227, 292, of credit contrasted with transfer of credit, 236-240, definition of, 239n, 262, 297, a factor in trade cycle theory, 247-248, has political causes, 263-264, caused by stock speculation, 266, of, 1927-1929, 279-280, money market first easy then tight through, 286-287, 293, as recovery policy, 295, indexes of, 297-298, prejudices pro and con, 298n (see also creation of credit, dishoarding, interest, money capital)

Inter-broker loans, 312, 324-335

Interest rates—

and free money capital, 18, and liquidity preference, 50, 140, 176n, and credit creation, 54, 108, 174-176, 180, 195, 196, 239, 252, 279, 286-287, and security prices, 57, 59, 90, 92, 106, 234, 275, affected by voluntary saving, 91n, 176n, 279-280, seasonal fluctuations of, 91n, 232-235, 243, expectations as to, 142n, and price level, 174-182, and structure of production, 176, 252, depend on flow, not stock of money, 176n, and commercial discounts, 191, 259, and private investment, 195, reduced along with wage rates, 198, short-term—nearly zero, 246, in cycle theory, 247-248, and marginal borrower, 252, and fixed capital, 252-255, as cost element, 254, and inventories, 255, short-term—raised, long-term—lowered, 275, 277-287, 285, raised by security issues, 277, 280

International capital movements, 155-163, 317-318, 371

International speculation, 154-163

Inventories—

as working capital, 14, 28-29, 202-206, seasonal fluctuations in, 211-212, 215-222, affected by interest rates, 255

Investment—

misdirection of, 20, 57, 59, 164, 168, 256, financed by new issues, 28-30, 125, 311, 315, financed by selling old securities 34-35, 125, 288, 299, 315, merely financial, 37-38, encouraged by high stock prices, 49, 108, 279, and technical progress 58, 248, excess of saving over, 147, affected by consumers demand, 148, 179, 254-255, of capital gains, 150-153, foreign, 155-163, reduced through foreign withdrawals, 160, financed by credit creation, 164-173, 177-178, 252-256, 286, 291, reduced with ended credit expansion, 173, 185, 231, equal to voluntary saving, 175, 183, equal to ex post saving, 186, increases

Investment—*continued*
  income, 185, 197, 264, private v public 134-138, 251, in working capital, 200, 202-208 252-255, 291, out of surplus cash balances 212, 220, 241-244, 246-248, short-term, 228, 230, 233, independent of quality of credit, 259-261 (see also formation of capital, real capital)

Investment trusts, 25, 37-38, 299

Issues of securities—
  as bonds or shares, 22, by investment trusts 25, 37-38, for real investment 25-30, 37-39, 125, 311, 315 held by jobbers 35, lagging behind credit supply, 48, 52-53, 89, 316-317, called forth by higher security prices 43-49, 90, 107-108, 266, 316-317, tend to depress security prices, 91-92, 265, financed by inflationary credit, 92, 266, financed by brokers' loans 105, 107, 110, 113-115, proceeds from—finance brokers' loans, 111, 114-115, 140, 315, proceeds from—kept idle, 126, 140, foreign 157 as industrial credit 250, raise interest rates, 277, 280, 285, compete with short borrowing, 281-287, watched and controlled by authorities, 299-300, statistics of, 315-317, 330, 348-370, 394-399

Jobber, 24, 35, 47, 77

Lending capacity—
  of banking system affected by stock exchange loans, 19, 263-264, increased through cancellation of deposits, 124, 309, 310, of English banks 132n, 134n, increased through shifting to time deposits, 132

Lengthening of the production period—
  (see period of production, structure of production)

Liquid funds—
  (see cash balances, liquidity preference, money capital surplus cash balances)

Liquidation—
  of fixed capital, 13, 16, 29, of working capital, 14, 16, 28-29, 37, 203-207, 253, 291, of security holdings, 23-24, 33-34, 121 124, 140, 144 of stock exchange loans, 115-116, 121-124, 144, 290, and re-investment, 165-167, 208, of temporary savings, 33-34, 225, of a crisis, 246, 292

Liquidity—
  of securities, 23-24, 35, 250, of call loans 140-141, rules of banking, 191, 206, of commercial loans 191-193, 206-207, of working capital, 192, 202-207, 253, 291, of a business firm 202, of short-term capital, 230, 251-254, tests on critical days, 243, of bank assets, 257

Liquidity preference—
  and stable security prices, 24n, and hoarding 50, 132, 135, 140-144, and interest theory, 31n, 176n, and rising stock prices 130-133, 140, satisfied by holding call loans, 140-141, 144, bear position and 141, satisfied by debt payments, 144, reduced—supports stock boom, 260

Loan value of securities, 266-272

Loanable funds—
  and interest rates, 18, 176n (see also creation of credit interest rates; money capital; surplus cash balances)

London Stock Exchange, 36n, 329-330

Long term credit—
  made out of short-term funds, 23, 250-251, 258, from temporary savings 24, 33, 55, 225, may move inversely with short-term credit, 286-287, 283 (see also interest rates, investment; saving)

Loss of capital—
  potential—through hoarding, 41-42, causes of—listed, 57-59, in security speculation 57-66, 289, 294 of banks, 64, leading to make-up saving, 65-66, invested in fixed equipment, 256

MacMillan Report, 401

Make-up savings, 65

Malinvestment (see investment)

Marginal borrower, 201, 251, 252, 257

Marginal cost (see cost of production)

Marginal productivity—
  of capital, 18, 42, 69, 252, of labour, 42, 166n, investment period affects, 166n, 212

Margin loans, 101-104, 110-112, 117-128, 260, 266-269, 272, 309-310 319-320, 325, 372-374

Margin requirements, 267-268, 292, 300

Methodology, 264n

Minimum cash reserves, 187, 188
  (see also cash balances, surplus cash balances)

Monetary policy—
  credit control a means of, 96, 260, concerning international capital flows, 160-162, guides of, 193, 290-300, to secure full employment, 194-199, to avoid cycles, 193, 294, motives, not causes of, 263-264, regulating bank reserves, 265, 268, 292, 299, objectives of, 294 (see also control of credit)

Money capital—
  defined, 9-10, sources of, 12-17, 92, 286, transfer of, 25, 31, destructions of, 28-30, 37, absorbed in chains of transactions, 44, 50, 55, excess supply of, 49-50, 52-54, disappeared, 62, 146, no boom without abundant, 90, 290, elasticity of supply of, 92, loaned to foreign countries, 157, fluctuating supply of foreign, 159-160, 317-318, and production structure, 164-173, 176, decline in—causes collapse, 166-170, 291, newly created credit as, 171-173, 175, 229, from dishoarded surplus cash balances, 212, 219-230, 241-244

Money market, 25, 37, 161, 231-248, 284-287, 292-293 (see also call loans; call loan rates; day-to-day money rates; brokers' loans; short-term funds)

Natural rate of interest—
defined, 54; raised with technical progress, 248 (see also equilibrium rate of interest)

Needs of trade, 190, 265

Neutral money, 81-82, 193

New York stock clearing corporation, 322, 323, 327, 377, 378-385 (see also clearing)

New York stock exchange, 98n, 100n, 142—
statistics of, 312, 326n, 333, 335, 377, 382, 385, 393; *Bulletin*, 313

Obsolescence, 16

Obviation of check payments through clearing, 322, 325n, 377-382 (see also clearing)

Offsetting policy, 160-163

Opportunity cost of holding cash, 140

Overconsumption, 170

Overinvestment—
with stable price level, 177; aggravated by secondary saving, 186; financed by surplus cash balances, 213, 245

Partnerships—
obtaining loans, 271; getting new partners, 282

Passive inflationism, 248

Period of production—
controversy about, 155n; lengthening of the, 166n, 209-213 (see also structure of production; roundaboutness of production)

Price level—
affected by credit creation, 174-177, 239n; stabilizing the, 177, 179-182, 193, 281, 295; and increased productivity, 177, 190, 299; lowered through security speculation, 70-72, 82; and transfer payments, 80-83, 85n; as guide to monetary policy, 193, 297-298; of securities (see security prices)

Price payments, 80-82

Producers' goods (see fixed capital, working capital, investment; structure of production)

Production, volume of—
reduced through hoarding, 26-27, 41-42; impaired by reduced capital supply, 33, 159, 165-168; and monetary circulation, 189-190; increased through credit creation, 194-198, 254-255; and liquidity of short-term capital, 206, 281; and surplus cash balances, 227, 292

Productivity—
    controversy on, 2-4, and price level, 177, 190, 298 (see also marginal productivity, technical progress)

Professional speculators, 8, 23-25, 34-36, 55, 77, 92-93, 234 (see also jobber)

Profits—
    consumption of, 32-33, 53-54, 64, 288, business—and share prices, 57-58, 90, 317, saving out of, 16, 170, 186, 208, withdrawn from stock market, 107, stock exchange—counted as income, 31n, 149-153, loan margins increased through, 267; loans repaid from, 208 (see also capital gains)

Profit inflation, 186

Propensity to consume, 187

Public works—
    financed by created credit, 194, to replace private investment, 195-197, 251, to offset private hoarding, 197

Pyramiding of margins, 257-258

Quality of credit, 191, 199-201, 249-261, 269, 292, 297, 300

Real capital—
    contrasted with money capital, 9-14, 17-18, depreciation of, 12-14, 16, 57-58, and interest theory, 15, formation of, 25-29, 35, 37-38, loss of, 57, 63, combined with other factors, 165 (see also fixed capital, working capital, inventories, investment)

Refunding, 25, 108, 315

Replacement fund—
    current—free for reinvestment, 12-17, 166, ultimately collected from consumer, 13, a factor determining natural rate of interest, 54n, used for capital consumption, 58, inelastic supply from, 92, production kept up through reinvestment of, 166-167, 208, may make up for fall in saving, 169n, seldom passes through credit market, 179, gradually collected and reinvested, 224

Reserve ratios (see bank reserves; excess reserves)

Return, rates of—
    negative—on investment, 194

Rigid prices and wages, 26, 42, 183, 190n

Risk—
    increased—reduces private investment, 196, reduced—permits use of surplus cash balances, 246

Roundaboutness of production, 18n, 165, 167, 173, 177, 207, 212, 220, 223n, 241 (see also period of production, structure of production)

Sadistic cycle theory, 296

Saving—
current voluntary—as supply of money capital, 12, 15-18; fiscal—and compulsory insurance funds, 15n; as demand for securities, 24, 27, 70, 84, 112, 311; and investment or hoarding, 26, 41; temporary, 33, 65, 225; to buy old securities, 35; and the natural rate of interest, 54n; to make up for capital losses, 65; without delay in transfer of funds, 84; cannot cause a boom, 91, 279, 280; and the interest rate, 91n, 176n; inelastic supply of funds from, 93; distinguished from inflationary funds, 94; margin loans repaid through, 115, 123; and idle savings deposits, 135; in excess of investment, 146-153, 183; capital gains included in, 149-153; and under-consumption, 166; depression due to decline in, 168-169; corporate, 170, 186, 202; forced, 172, 181-182, 185; long-run investment determined by voluntary, 173; increases with employment, 175n, 186; investment in excess of, 183; ex post—equals investment, 185; out of inflated profits, 186; in U.S., 1927-1929, 279

Savings deposits—
and liquidity preference, 130-145; competing with securities, 131; funds switched from demand deposits to, 132-139; reserve ratios for, 134n, 138n; in U.S., 1926-1929, 137; replaced by call loans, 140-145; time deposits as, 237-239

Seasonal fluctuations—
in production period, 209; of capital requirements, 209-221, 291; of inventories, 211-212, 215-222; in surplus cash holdings, 211-213, 219-230, 241-243, 291; of volume and velocity of circulation, 222-223, 228; in turnover of goods, 230; of money market rates, 232-235, 241-243, 292; in security prices, 234

Secondary saving, 186

Securities and Exchange Act, U.S., 268

Security capitalism, 24

Security issues (see issues of securities)

Security loans, 259, 311-312, 315 (see also brokers' loans; margin loans; margin requirements)

Security method of raising capital—
function and advantages of, 21, 23, 33; causing duplication of credit, 270-272; competing with other methods, 282.

Security prices—
absorption of funds seen in rise of, 46, 120n, 148; high—attract new issues, 48-50, 52, 90, 107-108, 266, 289, 316-317; high—mean cheap money for industry, 49, 140, 278-282, 293; rise in—leads to profit taking and consumption, 54, 107; reasons for fall of, 57-59; losses due to fall of, 57-66; rise not at expense of commodity prices, 70-72; clearing balances independent of, 75; payments of—are like transfer payments, 82; boom in—needs support by abundant credit, 90-92, 279, 290; and interest rates, 90, 91n, 103, 234, 274-277; brokers' loans and rise of, 102, 105-107; and bear position, 131-133,

Security prices—*continued*
    135, 139, 141, rise in—regarded as income, 152n, 153, no seasonal fluctuations in, 234, and loan margins 266-269, among the guides to monetary policy 296, 298-299, index of, 316-317, 321, 329-330, 365-370, 375-376, 394-399

Self-liquidating loans, 191, 204, 206

Self finance of industry, 170 (see also corporate saving)

Service balances with banks, 77n, 325n

Settlement (see clearing)

Settlement days, 98n, 99n, 100n

Short-term capital—
    international movements of, 155, 159-163, 317-318, 371, working capital versus 202-230, as suitable investment for, 207, 233, 249, liquidity of, 230n, 254n, shortage of, 244 (see also working capital, investment)

Short-term credit—
    no short-term investment for, 202-220, inelastic demand for, 233, 253, leads to fixed investment, 249-257, 292, transformed into long-term credit, 23, 250-251, 258, affected by movement in long-term credit, 280-287, 293 (see also money market, call loan rates, temporary saving, liquidity)

Sieve analogy, 78

Specificity of equipment, 203, 256

Stability—
    of foreign exchange rates, 161-162, of capital supply, 165 173, 186; of price level, 177, 179-182, 183, 291, 295, of employment, 183, 185-188, 297, versus progress, 294

Stages of production, 13, 166-168, 173, 188, 204, 205-207 (see also structure of production)

Standard Statistics Co., 321, 370

Statistics—
    for United States, 311-328, 331-387; for United Kingdom, 329-330, 388-395

Statistical proofs—value of, 138

Stock exchange clearing (see clearing)

Stock exchange credit (see broker's loans, margin loans, margin requirements)

Stock exchange speculation (see security prices, expectations, bear position, bull sentiment, loss of capital, margin requirements)

Stock prices (see security prices)

Structure of production—
    affected by supply of money capital, 164, 166-169, 210, affected by increase in consumption, 170, affected by credit

Structure of production—*continued*
    creation, 175-177, 194-195, 198, 201, 295, and liquidity of short-term capital, 206, affected by use of surplus cash balances, 212-213, 241-242 (see also period of production, roundaboutness of production)

Supply of money capital (see money capital, saving, creation of credit, dishoarding)

Surplus cash balances, 15-17, 212-230, 233-248, 261-262, 295 (see also cash balances, dishoarding)

Technical absorption of funds, 129-130

Technical progress, 58, 177, 248, 298

Temporary capital requirements, 209-221

Temporary savings—
    available for long-term investment, 24, 33, 65, 225, withdrawal of, 33, 38, 225, withdrawal made impossible, 65-66, suitable investment for, 191, 205-207, contrasted with temporary cash surpluses, 224-227

Temporary surplus cash balances (see surplus cash balances)

Theory and practice, 293

Time deposits—
    reserve requirements for, 134n, 138n; nature of, 135, 237-239; rise of—in U.S., 1926-1929, 136-139

Time element in market analysis, 43, 51, 83-85

Trade credit, 214, 257

Trade cycle (see fluctuations)

Transactions motive—
    of holding cash, 176n, of holding brokerage deposits, 307

Transactions velocity of circulation, 71, 84 (see also velocity of circulation)

Transfer credit—
    defined, 224n; contrasted with inflationary credit, 224-225, 277, 292; as one of three types of credit, 231-232, 235-239

Transfer of money capital, 27-28, 40, 43, 50, 171, 236, 286

Transfer payments—
    defined, 79n, theory of, 79-83, delays due to, 83-85, chains of, 50, 86-89, 93, 95, 113, 290

Transfer problem—international, 155

True inflation, 185, 198

Under-consumption theories, 168

Unemployment—
due to hoarding, 27, 42, and interest theory, 176n, and healthy inflation, 183, 193-198, reduced through credit creation, 186, 194, 295, and dishoarding, 212, and production structure, 194-195, 198, reduced through lower wages rates, 197 198

Velocity of circulation—
assumed as constant, 71 72, compensating for change in money work, 84, of funds on stock market 129 130, 324-325, 327, 383 385, showing hoarding or dishoarding, 132n, 138-139, increased during 1927 1929, 138 139, 290, inflated through use of surplus balances 213, 236n 245, seasonal fluctuations of, 222, cyclical fluctuations of, 228n, 246, 247n and 100 per cent. plan, 240n, of brokerage deposits, 307, 308

Vertical integration of industry, 187, 229, 245

Voluntary saving (see saving)

Wage rates—
rigidity of, 26, 42, 183, 190n; and capital supply, 166; and interest rates, 176n, 198, credit expansion, employment and, 194, 197 198,

Widening of the market, 24

Working capital—
currently liquidated, 13-15, contrasted with other funds, 15-17, liquidation of, 28-29, 37, 203-207, 253, 291, reinvestment of liquidated, 166, 206, financed by created credit, 192, 200, definition of, 202, contrasted with fixed capital, 202-203, and short term loans, 202-230, elasticity of demand for, 252-256, financed by long term capital, 281

The Ludwig von Mises Institute

The Ludwig von Mises Institute, founded in 1982, is the research and educational center of classical liberalism, libertarian political theory, and the Austrian School of economics. Working in the intellectual tradition of Ludwig von Mises (1881-1973) and Murray N. Rothbard (1926-1995), with a vast array of publications, programs, and fellowships, the Mises Institute, with offices in Auburn, Alabama, seeks a radical shift in the intellectual climate as the foundation for a renewal of the free and prosperous commonwealth. This print-on-demand series is one division of a larger publishing program that offers new and classic works in high-quality editions. For more information and ordering, see mises.org.

Ludwig von Mises Institute
518 West Magnolia Avenue
Auburn, Alabama 36832-4528
334.321.2100 · Phone
334.321.2119 · Fax
contact@mises.org

Copyrighted material

A c[illegible]k prices canno[illegible] imp[illegible] of production or by increased volun[illegible] ut only by an inflationary credit supply.

- Fritz Machlup

Mises Institute
Print on Demand
2007

ISBN 978-1-61016-050-6
90000 >
9 781610 160506
SKU 55212